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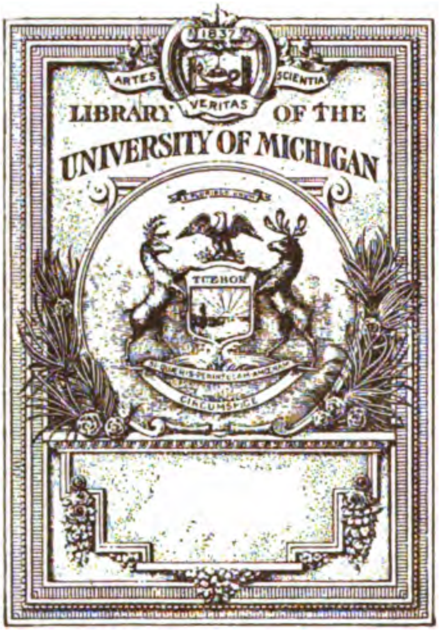

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[illegible] C. HENDERSCHOTT
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JAMES H. RAND
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W. W. KINCAID
President

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Secretary

F. C. HENDERSCHOTT
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The National association of
corporation training
Annual proceedings 7

THE NATIONAL ASSOCIATION OF CORPORATION SCHOOLS

SEVENTH ANNUAL PROCEEDINGS

Addresses, Reports, Bibliographies and Discussions

Blackstone Hotel
Chicago, Illinois
JUNE 2nd, 3rd, 4th, 5th, 6th, 1919

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CONTENTS

PAGE
Addresses 35
Annual Business Meeting 788
Committees for 1918-1919 6

Committee Reports:

    Continuation Schools 535
    Employment 327
    Executive Training 74
    Health Education 747
    Marketing 239
    Methods of Instruction 620
    Office Work Training 699
    Organization and Administration 163
    Public Education 567
    Technical Training 108
    Trade Apprenticeship 279
    Unskilled Labor and Americanization 463
Constitution 29
Directory of Local Chapters 10

Discussions:

    Committee on Continuation Schools 553
        Employment 398
        Executive Training 85
        Health Education 727
        Local Chapters 765
        Marketing 268
        Methods of Instruction 605
        Office Work Training 687
        Organization and Administration 205
        Public Education 579
        Semi-Skilled and Skilled Labor 443
        Technical Training 134
        Trade Apprenticeship 307
        Unskilled Labor and Americanization 518
Executive Secretary's Report 48
Membership 11
Officers 26
Resolutions 788
Treasurer's Report 58

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FUNCTIONS

THE FUNCTIONS OF THE ASSOCIATION ARE THREEFOLD

1 TO DEVELOP THE EFFICIENCY OF THE INDIVIDUAL EMPLOYE

2 TO INCREASE EFFICIENCY IN INDUSTRY

3 TO HAVE THE COURSES IN ESTABLISHED EDUCATIONAL INSTITUTIONS MODIFIED TO MEET MORE FULLY THE NEEDS OF INDUSTRY

ORGANIZATION OF SUBCOMMITTEES FOR 1918–1919

CONTINUATION SCHOOLS

DR. PAUL KREUZPOINTNER, Chairman, The Pennsylvania Railroad Company, Altoona, Pa.

Duties: To study the application of the Smith-Hughes Vocational Educational Law and other continuation school developments and report the progress of each.

EMPLOYMENT

MR. BURR A. ROBINSON, General Chairman, United States Rubber Company, New York, N. Y.

Duties: To continue the study of Labor Turnover from the development as given in the Confidential Report No. 1 with special attention to such methods for accounting by which the cost of labor turnover may be determined.

Section II—Psychological Tests and Results Secured from Such Tests

DR. HENRY C. LINK, Chairman, United States Rubber Company, New Haven, Conn.

Section III—Job Analysis

MR. HARRY A. HOPF, Chairman, Federal Reserve Bank of New York, New York, N. Y.

Section IV—To Study and Determine the Proper Relationship that Should Be Maintained Between the Employment Division and the Other Departments of an Industrial Institution

MR. JOHN C. BOWER, Chairman, Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa.

EXECUTIVE TRAINING

DR. E. B. GOWIN, Chairman, 126 West 85th Street, New York City.

Duties: To continue the study of how employes may be trained for executives.

HEALTH EDUCATION

DR. F. S. CRUM, Chairman, The Prudential Insurance Company of America, Newark, N. J.

Duties: To codify the principal sources of sickness, death and injury in the industries of the United States and to suggest remedies.

MARKETING

MR. JOHN McLEOD, Chairman, Carnegie Steel Company, Pittsburgh, Pa.

Duties: To determine what are the vital factors in marketing and what are the elements of efficiency that are lacking in present day methods.

METHODS OF INSTRUCTION

MR. J. K. BRUGLER, JR., Chairman, Western Union Telegraph Company, New York, N. Y.

Duties: To suggest courses of reading and study in the technique of methods of instruction with suggestions showing their special application to different types of corporation schools.

OFFICE WORK TRAINING

MISS HARRIET BAKER, Chairman, The New York Edison Company, New York, N. Y.

Duties: To determine under what conditions is organized training for office boys, clerks, and stenographers advisable.

ORGANIZATION AND ADMINISTRATION

DR. LEE GALLOWAY, Chairman, New York University, New York, N. Y.

Duties: To determine the best methods of organization of educational work as a function of management in typical instances.

PUBLIC EDUCATION

MR. C. E. SHAW, Dennison Manufacturing Company, Framingham, Mass.

Duties: To determine how fully the Public School System of the United States is meeting the educational and training requirements of modern business and industry and study ways and means for a closer coordination where such can be applied without interference with the broader purposes of public education.

SKILLED AND SEMI-SKILLED LABOR

DR. A. J. BEATTY, Chairman, American Rolling Mill Company, Middletown, Ohio.

Duties: To recommend standard educational programs for developing skilled and semi-skilled workers.

TECHNICAL TRAINING

MR. A. B. BENEDICT, Chairman, Goodman Manufacturing Company, Chicago, Ill.

Duties: To continue the study of how employers of technical graduates can best cooperate with technical schools.

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MR. E. E. SHELDON, General Chairman, R. R. Donnelley & Sons Company, Chicago, Ill.

Section I—Railroads

No report.

Section II—Manufacturing

MR. R. F. CAREY, Westinghouse Electric and Manufacturing Company, Lester, Pa.

Duties: To ascertain under what conditions and to what extent is apprentice instruction desirable in a manufacturing plant.

Section III—Steel and Iron

Mr. C. E. Strait, Chairman, American Rolling Mill Company, Middletown, Ohio.

Duties: To ascertain in what divisions of a steel mill it is desirable to develop apprentices and methods to be employed in training apprentices.

UNSKILLED LABOR AND AMERICANIZATION

Mr. J. E. Banks, Chairman, American Bridge Company, Ambridge, Pa.

Duties: To determine the best methods for Americanization of foreign born and to continue the study of methods of teaching English to the foreign born.

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F. E. LOOMIS, Secretary-Treasurer, Merchants Loan and Trust Company.

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OF

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Commonwealth Steel Company ....Arthur T. Morey
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Ampere, N. J.
The Curtis Company, Inc. ....C. D. Perrin
Clinton, Iowa
Deere & Company ....A. P. Webster
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Bangor, Me.
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New York, N. Y.
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New York, N. Y.
Federal Reserve Bank of New York......................H. A. Hopf
New York, N. Y.
Fels & Company...Maurice Fels
Philadelphia, Pa.
General Electric Company...............................H. G. Reist
Schenectady, N. Y.

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Detroit, Mich.
Goodman Manufacturing Company .... A. B. Benedict
Chicago, Ill.
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Akron, Ohio
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Akron, Ohio
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New York, N. Y.
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Denver, Colo.
Habirshaw Electric Cable Company, Inc. .... J. W. Shreve
Yonkers, N. Y.
H. J. Heinz Company .... Howard Heinz
Pittsburgh, Pa.
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Buffalo, N. Y.
Illinois Steel Company .... T. W. Robinson
Chicago, Ill.
Robt. H. Ingersoll & Bro. .... Miss Dorrit Osann
New York, N. Y.
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Cleveland, Ohio
International Harvester Company .... G. A. Ranney
Chicago, Ill.
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New York, N. Y.
Jones & Laughlin Steel Company .... A. L. McLaughlin
Pittsburgh, Pa.
Andrew H. Kellogg Company .... James S. Hedges
New York, N. Y.
Kops Brothers .... Waldemar Kops
New York, N. Y.
Larkin Company .... William R. Heath
Buffalo, N. Y.
Eli Lilly & Company .... Charles J. Lynn
Indianapolis, Ind.
John Lucas & Company, Inc. .... Alfred V. Bowen
Philadelphia, Pa.
R. H. Macy & Company .... A. S. Donaldson
New York, N. Y.
Thomas Maddock's Sons Company .... Oliver C. Short
Trenton, N. J.
Marshall Wells Company .... W. F. Arndt
Duluth, Minn.

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Mesta Machine Company	Frederick W. Hyle	Pittsburgh, Pa.
Midvale Steel & Ordnance Company	Edward S. Coraugh	Philadelphia, Pa.
Montgomery Ward & Company	R. D. Tyler	Chicago, Ill.
The Mountain States Telephone & Telegraph Company	Robert B. Bonney	Denver, Colo.
The National Cash Register Company	H. G. Carnell	Dayton, Ohio
The National City Bank of New York	J. T. Gyger	New York, N. Y.
National Tube Company	Taylor Allderdice	Pittsburgh, Pa.
New England Telephone & Telegraph Company	E. W. Longley	Boston, Mass.
Newport News Shipbuilding & Dry Dock Company	E. O. Smith	Newport News, Va.
The New York Edison Company	Arthur Williams	New York, N. Y.
New York Telephone Company	J. L. Turner	New York, N. Y.
The Nunnally Company	W. F. Ison	Atlanta, Ga.
Oneida Community, Ltd.	Theodore H. Skinner	Oneida, N. Y.
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Packard Motor Car Company	F. L. Jandron	Detroit, Mich.
Philadelphia Rapid Transit Company	Mahlon R. Kline	Philadelphia, Pa.
Phœnix Iron Works Company	W. C. Schade	Meadville, Pa.
Phœnix Mutual Life Insurance Company	C. E. Johnston	Hartford, Conn.
Pittsburgh Iron & Steel Foundries Company	Erl C. B. Gould	Pittsburgh, Pa.
Pittsburgh Railways Company	C. G. Rice	Pittsburgh, Pa.
Pratt & Whitney Company	E. E. Fowler	Hartford, Conn.
Pressed Steel Car Company	J. B. Rider	Pittsburgh, Pa.

The Procter & Gamble Company .... L. S. Bitner
Cincinnati, Ohio
The Prudential Insurance Company of America...... Fred W. Tasney
Newark, N. J.
Public Service Corporation of New Jersey............ John L. Conover
Newark, N. J.
The Rand Company .... James H. Rand
North Tonawanda, N. Y.
Republic Iron & Steel Company .... E. R. Rose
Youngstown, Ohio
The H. M. Rowe Company .... H. M. Rowe
Baltimore, Md.
The Schwarzenbach-Huber Company...................... H. Viola
West Hoboken, N. J.
Service Motor Truck Company .... Paul Moore
Wabash, Ind.
Shepard Electric Crane & Hoist Company .... Welles G. Catlin
Montour Falls, N. Y.
George W. Smith & Company, Inc. .... Mrs. Arthur D. Smith
Philadelphia, Pa.
The Solvay Process Company .... E. R. Blinn
Syracuse, N. Y.
Southern Bell Telephone & Telegraph Company... Kendall Weisiger
Atlanta, Ga.
Southwestern Bell Telephone System................... Ben S. Read
St. Louis, Mo.
The Spirella Company, Inc. .... W. W. Kincaid
Niagara Falls, N. Y.
Standard Fashion Company .... John T. Scanlon
New York, N. Y.
Standard Oil Company of California.................... R. C. Warner
San Francisco, Cal.
The Stanley Works .... J. H. Fellows
New Britain, Conn.
John B. Stetson Company .... Mont H. Wright
Philadelphia, Pa.
Strawbridge & Clothier .... Dr. Herbert J. Tily
Philadelphia, Pa.
Submarine Boat Corporation .... Harry H. Tukey
Newark, N. J.
Successful Farming Publishing Company......... Laurence W. Lane
Des Moines, Iowa
Swift & Company .... E. L. Ward
Chicago, Ill.
The Tabulating Machine Company .... Robert L. Houston
New York, N. Y.
The Texas Company .... Dr. L. H. Canfield
New York, N. Y.

The Timken-Detroit Axle Company....................F. C. Lawton
Detroit, Mich.
The Travelers Insurance & Indemnity Company..Louis N. Denniston
Hartford, Conn.
United States Rubber Company ....Ralph Starr Butler
New York, N. Y.
Universal Portland Cement Company ....R. J. Young
Chicago, Ill.
Virginia-Carolina Chemical Company............Charles G. Wilson
Richmond, Va.
The Warner & Swasey Company...................Franklin T. Jones
Cleveland, Ohio
Washburn-Crosby Company ....M. D. Bell
Minneapolis, Minn.
Wells Fargo Nevada National Bank ....F. L. Lipman
San Francisco, Cal.
Western Electric Company, Inc. ....J. W. Dietz
New York, N. Y.
Western Union Telegraph Company ....James K. Brugler, Jr.
New York, N. Y.
Westinghouse Air Brake Company ....C. H. Smith
Wilmerding, Pa.
Westinghouse Electric & Manufacturing Company........C. S. Coler
East Pittsburgh, Pa.
Wilson & Company ....Miss Delos James
Chicago, Ill.
Winchester Repeating Arms Company ....Hugo Diemer
New Haven, Conn.
The Yale & Towne Manufacturing Company..........J. B. Chalmers
Stamford, Conn.
The Youngstown Sheet & Tube Company...............R. M. Welch
Youngstown, Ohio
Total 126

Class B Members

Abbiss, R. D. ....Carnegie Steel Company
Braddock, Pa.
Albach, Jr., George ....The Schwarzenbach-Huber Company
Bayonne, N. J.
Alexander, M. W. ....General Electric Company
Lynn, Mass.
Anderson, W. D. ....The Atlantic Refining Company
Philadelphia, Pa.
Ashe, Sydney W. ....General Electric Company
Pittsfield, Mass.
Baker, Miss Harriet ....The New York Edison Company
New York, N. Y.

Barringer, J. H.	The National Cash Register Company	Dayton, Ohio
Beatty, A. J.	The American Rolling Mill Company	Middletown, Ohio
Bower, John C.	Westinghouse Electric & Manufacturing Company	East Pittsburgh, Pa.
Breese, Mrs. G. S.	Federal Reserve Bank of New York	New York, N. Y.
Brooking, W. H.	The Spirella Company, Inc.	Niagara Falls, N. Y.
Bulkley, Mrs. G. A.	Federal Reserve Bank of New York	New York, N. Y.
Burnett, L. H.	Carnegie Steel Company	Pittsburgh, Pa.
Camp, J. M.	Carnegie Steel Company	Pittsburgh, Pa.
Carey, R. F.	Westinghouse Electric & Manufacturing Company	Lester, Pa.
Caperton, W. A.	Eli Lilly & Company	Indianapolis, Ind.
Chandler, W. L.	Dodge Manufacturing Company	Mishawaka, Ind.
Cox, Edwin R.	The Atlantic Refining Company	Philadelphia, Pa.
Cozad, Walter F.	The Mountain States Telephone & Telegraph Company	Denver, Col.
Davison, Miss Carolyn S.	International Harvester Company	Chicago, Ill.
Devereux, F. L.	American Telephone & Telegraph Company	New York, N. Y.
Dougherty, N. F.	Pennsylvania Railroad Company	Clayton, Del.
Dunham, W. E.	A. M. Byers Company	Pittsburgh, Pa.
Forsyth, W. D.	Westinghouse Electric & Manufacturing Company	East Pittsburgh, Pa.
Fout, George B.	The Youngstown Sheet & Tube Company	East Youngstown, Ohio
Frankmer, J. H.	The National Cash Register Company	Dayton, Ohio
Freed, James A.	Carnegie Steel Company	Youngstown, Ohio
Frye, M. A.	Western Union Telegraph Company	Chicago, Ill.
Garvey, James J.	Western Electric Company, Inc.	Chicago, Ill.
Gibson, J. B.	Western Electric Company	New York, N. Y.

Gilbert, A. W.	Federal Reserve Bank of New York	New York, N. Y.
Graham, W. H.	Western Electric Company, Inc.	New York, N. Y.
Grandstaff, E. G.	The New York Edison Company	New York, N. Y.
Grant, J. D.	International Harvester Company	Chicago, Ill.
Gressle, E. W.	Warner & Swasey Company	Cleveland, Ohio
Guion, C. A.	The National Cash Register Company	Dayton, Ohio
Gump, Walter B.	R. R. Donnelley & Sons Company	Chicago, Ill.
Hartman, William	The National Cash Register Company	Dayton, Ohio
Heinemann, A. L.	The Pennsylvania Railroad Company	Philadelphia, Pa.
Hemphill, James	Carnegie Steel Company	Duquesne, Pa.
Henderschott, F. C.	The New York Edison Company	New York, N. Y.
Henderson, W. B.	Montgomery Ward & Company	Kansas City, Mo.
Hill, Albert	The Atlantic Refining Company	Philadelphia, Pa.
Hirsch, Joseph	Kops Brothers	New York, N. Y.
Huey, S. C.	Westinghouse Electric & Manufacturing Company	East Pittsburgh, Pa.
Huey, Miss Katherine	Bell Telephone Company of Pennsylvania	Philadelphia, Pa.
Hughes, E. W.	The Pennsylvania Railroad Company	Altoona, Pa.
Jefferson, H. M.	Federal Reserve Bank of New York	New York, N. Y.
Keiser, A. A.	The National Cash Register Company	Dayton, Ohio
Kelly, J. F.	The New York Edison Company	New York, N. Y.
Kreuzpointner, Dr. Paul	1400 Third Avenue	Altoona, Pa.
Leonard, N. D.	The Atlantic Refining Company	Philadelphia, Pa.
Lewis, J. D.	Carnegie Steel Company	Swissdale, Pa.
MacLeod, Elvin N.	Jones & Baker	New York, N. Y.

Madsen, H. T. ....Westinghouse Electric & Manufacturing Company
Lester, Pa.
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Schenectady, N. Y.
Orth, Miles H. ....Bell Telephone Company of Pennsylvania
Pittsburgh, Pa.
Patterson, John H. ....The National Cash Register Company
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Pearson, W. A. ....The National Cash Register Company
Dayton, Ohio
Pfeif, G. H. ....General Electric Company
Schenectady, N. Y.
Pratt, Miss L. M. ....The New York Edison Company
New York, N. Y.
Primmer, E. F. ....The National Cash Register Company
Dayton, Ohio
Purdy, W. B. ....The Atlantic Refining Company
Philadelphia, Pa.
Ramage, E. G. ....Carnegie Steel Company
Braddock, Pa.
Ray, Louis A. ....Carnegie Steel Company
Newcastle, Pa.
Raymond, J. F. ....Winchester Repeating Arms Company
New Haven, Conn.
Reisch, Miss Margaret E. ....American Rolling Mill Company
Middletown, Ohio
Robbins, Charles.....Westinghouse Electric & Manufacturing Company
East Pittsburgh, Pa.
Robinson, Mrs. M. H. ....Federal Reserve Bank of New York
New York, N. Y.
Rounds, L. A. ....Federal Reserve Bank of New York
New York, N. Y.
Sanborn, C. J. ....Crocker-Wheeler Company
Ampere, N. J.
Service, M. E. ....The National Cash Register Company
Dayton, Ohio
Seymore, H. E. ....Commonwealth Edison Company
Chicago, Ill.
Shaw, E. D. ....Burroughs Adding Machine Company
Detroit, Mich.
Sheldon, E. E. ....R. R. Donnelley & Sons Company
Chicago, Ill.
Shoup, I. B. ....Westinghouse Electric & Manufacturing Company
East Pittsburgh, Pa.
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New York, N. Y.
Skiff, W. M. ....National Lamp Works, General Electric Company
Cleveland, Ohio

Soderberg, A. W. .... Carnegie Steel Company
Munhall, Pa.
Sorrelle, J. W. .... Montgomery Ward & Company
Chicago, Ill.
Stacy, L. E. .... The Spirella Company, Inc.
Niagara Falls, N. Y.
Steffey, C. E. .... The National Cash Register Company
Dayton, Ohio
Steinmetz, Dr. C. P. .... General Electric Company
Schenectady, N. Y.
Strait, C. E. .... American Rolling Mill Company
Middletown, Ohio
Thayer, Miss Gertrude B. .... Jones & Baker
New York, N. Y.
Titus, W. A. .... Western Electric Company, Inc.
Chicago, Ill.
Uhl, Frederick .... American Telephone & Telegraph Company
Atlanta, Ga.
Vaille, Howard T...... The Mountain States Telephone & Telegraph Co.
Denver, Colo.
VanDerhoef, George N. .... Dodge Manufacturing Company
New York, N. Y.
Van der Pyl, J. C. .... American Hard Rubber Company
College Point, N. Y.
Vinal, A. C. .... American Telephone & Telegraph Company
New York, N. Y.
Wakefield, P. E. .... Carnegie Steel Company
Duquesne, Pa.
Walker, W. D. .... Packard Motor Car Company
Detroit, Mich.
Weakly, F. E. .... Montgomery Ward & Company
Chicago, Ill.
Welsh, M. J. .... The Atlantic Refining Company
Brunswick, Ga.
Whipple, T. H. Bailey. Westinghouse Electric & Manufacturing Company
East Pittsburgh, Pa.
Wickenden, W. E. .... Western Electric Company, Inc.
New York, N. Y.
Wood, Charles L. .... Carnegie Steel Company
Pittsburgh, Pa.
Woodward, George S. .... American Rubber Company
Cambridge, Mass.
Woodward, Ly .... Carnegie Steel Company
Munhall, Pa.
Wyman, Alfred H. .... Carnegie Steel Company
Pittsburgh, Pa.

Young, William W. ......The Bell Telephone Company of Pennsylvania
Philadelphia, Pa.

Total 103

Class C Members

Aery, William Anthony..The Hampton Normal & Agricultural Institute
Hampton, Va.

Altamer, Harold M. ....Cincinnati Milling Machine Company
Cincinnati, Ohio

Basford, G. M. ....Locomotive Feed Water Heater Company
New York, N. Y.

Blumenfeld, F. ....Superintendent of Public Property
Madison, Wis.

Bohn, Miss Elizabeth H. ....144 Henry Street
Brooklyn, N. Y.

Borton, J. Harvey....................Haines Jones & Cadbury Company
Philadelphia, Pa.

Brewster, Maurice A. ....Penn-American Refining Company
Oil City, Pa.

Brinckerhoff, Charles Fuller............Secretary, Board of Pensions
Grand Central Terminal, New York, N. Y.

Broadbent, Joseph W. ....Funk & Wagnalls Company
New York, N. Y.

Buell, D. C. ....The Railway Educational Bureau
Omaha, Neb.

Busch, Miss Ella Adeline ....Hotel Berkley
New York, N. Y.

Butler, Ladson ....Yawman & Erbe Manufacturing Company
Rochester, N. Y.

Butler, W. T. ....Bethlehem Shipbuilding Corporation, Ltd.
Sparrow's Point, Md.

Carpenter, Dan E. ....International Correspondence Schools
Scranton, Pa.

Cetti, Carl ....Bethlehem Shipbuilding Corporation, Ltd.
Elizabeth, N. J.

Childs, G. S. ....Alexander Hamilton Institute
New York, N. Y.

Clark University Library
Worcester, Mass.

Collyer, Norman ....528 Riverside Drive
New York, N. Y.

Crow, Allen B. ....Young Men's Christian Association
Detroit, Mich.

Davis, George Wadsworth ....The Pennsylvania State College
State College, Pa.

Deer, Andrew ....G. P. O. Box No. 489
Wellington, New Zealand

Dodd, Alvin E. .... Retail Research Association
New York, N. Y.

Dooley, C. R. .... Standard Oil Company (New Jersey)
New York, N. Y.

Dutton, Mrs. Ida Jane.......... New York Exchange for Woman's Work
New York, N. Y.

Eldridge, Edward H. .... Simmons College
Boston, Mass.

Fallon, George P. .... High School of Commerce
New York, N. Y.

Ferguson, Reginald W. .... Gadbury Brothers, Ltd.
Bournville, England

Flammer, Charles .... A. Schilling & Company
San Francisco, Cal.

Fleming, A. P. M.
British Westinghouse Electric & Manufacturing Company, Ltd.
Trafford Park, Manchester, England

Foster, Rufus J. .... International Correspondence Schools
Scranton, Pa.

Frederick, C. L. .... Remington Typewriter Company
Portsmouth, Ohio

Frye, J. H. .... Bethlehem Shipbuilding Corporation, Ltd.
Quincy, Mass.

Galloway, Dr. Lee .... New York University
New York, N. Y.

Garrison, Noble Lee .... National Bank of Commerce in New York
New York, N. Y.

Gowin, Dr. E. B. .... 126 West 85th Street
New York, N. Y.

Griffinhagen, E. O. .... Arthur Young & Company
Chicago, Ill.

Gross, Howard A. .... West Penn Steel Company
Brackenbridge, Pa.

Gwynne, Charles T. .... Chamber of Commerce
New York, N. Y.

Hackett, J. D. .... 2 East Twenty-third Street
New York, N. Y.

Hale, J. W. L. .... 24 Marlborough Street
Newburyport, Mass.

Haley, Frederick J. .... The Macmillan Company
New York, N. Y.

Harlo, Miss Nanette .... 445 West 153rd Street
New York, N. Y.

Haughton, Miss Edith E. .... International Committee, Y. M. C. A.
New York, N. Y.

Hamilton, Mrs. Mary E. .... 330 West Fifteenth Street
New York, N. Y.

Hilborn, Miss Rita ....46 West Ninety-sixth Street
New York, N. Y.
Hodges, Thomas V. ....Semet Solvay Company
Syracuse, N. Y.
Holmes, W. H. ....Board of Education
Mount Vernon, N. Y.
Homer, C. L. ....Bethlehem Shipbuilding Corporation, Ltd.
Providence, R. I.
Hopf, Harry ....Liberty Tower, 55 Liberty Street
New York, N. Y.
Ikeda, Toshiro ....275 Sankocho, Shirokane, Shiba
Tokyo, Japan
Ireton, Dr. D. Louis ....National Lead Company
New York, N. Y.
Joseph & Feiss Company, The ....2149 West 53rd Street
Cleveland, Ohio
Kelly, Roy W. ....Harvard University
Cambridge, Mass.
King, Miss Caroline ....The Ronald Press Company
New York, N. Y.
Koch, Jr., Ernest H. ....213 W. Lavender Road
Wildwood Crest, N. J.
Lacoin, M. ....28 Rue de Varenne
Paris, France
Larkin, J. M. ....Bethlehem Shipbuilding Corporation, Ltd.
Quincy, Mass.
Leland, B. F. ....West Virginia University
Morgantown, West Virginia
Lewis, E. St. Elmo ....347 Fifth Avenue
New York, N. Y.
Loring, Lindsley ....Merrimac Chemical Company
Boston, Mass.
Lough, W. H. ....Business Training Corporation
New York, N. Y.
McCormack, H. S. ....Box 16, General Post Office
New York, N. Y.
MacClintock, Dr. Samuel ....200 New Jersey Avenue, N. W.
Washington, D. C.
MacGrail, J. F. ....54 South Elliott Place
Brooklyn, N. Y.
McKinney, James ....University of Illinois
208 So. La Salle Street, Chicago, Ill.
Maddison, Walter F. ....Federal Board for Vocational Education
New York, N. Y.
Mann, Howard L. ....Merrimac Chemical Company
Boston, Mass.
Meese, Constant ....Meese & Gottfried Company
San Francisco, Cal.

Mehren, E. J. ....McGraw-Hilll Publishing Company, Inc.
New York, N. Y.
Meiborg, Miss Mae ....347 Madison Avenue
New York, N. Y.
Metcalf, Dr. Henry C. ....Bureau of Municipal Research
New York, N. Y.
Miller, Carlton O.
International Committee of Y. M. C. A.'s of North America
New York, N. Y.
Miller, James W. ....Lever Brothers, Ltd.
Cheshire, England
Moulin, F. ....Pacific Mill & Mine Supply Company
San Francisco, Cal.
Murray, P. J. ....Chamber of Commerce
Mount Vernon, N. Y.
Myers, George E. .....Department of Education University of Michigan
Ann Arbor, Mich.
Norwood, I. C. ....Bethlehem Chamber of Commerce
Bethlehem, Pa.
Nystrom, Paul H. ....International Magazine Company
New York, N. Y.
Osgood, Miss Ellen G. ....Julia Richmond High School
New York, N. Y.
Pace, Homer S. ....Pace & Pace
New York, N. Y.
Palmer, A. N. ....A. N. Palmer Company
New York, N. Y.
Parker, W. E. ....Bethlehem Shipbuilding Corporation, Ltd.
San Francisco, Cal.
Peel-Conner Telephone Works, Ltd. ....W. Orme
Lancashire, England
Pettus, W. B. ....North China Language School
Peking, China
University of Pittsburgh ....Pittsburgh, Pa.
Price, Theodore H. ....15 Wall Street
New York, N. Y.
Randall, J. A. ....The Toledo Scale Company
Toledo, Ohio
Raymond, Frank J. ....74 Stockton Place
East Orange, N. J.
Rice, William G. ....The Civil Service Commission
Albany, N. Y.
Rich, Gilbert J. ....489 Manhattan Avenue
New York, N. Y.
Rosenwerg, L. ....S. Liebowitz & Sons
75 Leonard Street, New York, N. Y.

Ruby, Charles A.	State Mutual Life Insurance Company of Worcester, Mass. Springfield, Mass.
Russell, Walter B.	Franklin Union Industrial School for Men Boston, Mass.
Sackett, R. L.	The Pennsylvania State College State College, Pa.
Scrimshaw, Stewart	Industrial Commission of Wisconsin Milwaukee, Wis.
Scott, Professor Walter Dill	War Department State War and Navy Building, Washington, D. C.
Sears, Frederic R.	Sheldon School of Business Science Glasgow, Scotland
Sexton, F. H.	Novia Scotia Technical College Halifax, Nova Scotia, Canada
Shepard, Mrs. O. F.	39 Train Street Dorchester, Mass.
Robinson-Smith, Mrs. Gertrude	38 West 39th Street New York, N. Y.
Super, Paul	International Committee Y. M. C. A. New York, N. Y.
Sutton, Harry	McBurney School New York, N. Y.
Tomlinson, E.	United Industries Branch Y. M. C. A. Bayonne, N. J.
Warner, L. T.	The Warner Brothers Company Bridgeport, Conn.
Warner, Philip J.	The Ronald Press New York, N. Y.
Watford Manufacturing Company, Ltd.	Delectaland Watford Herts, England
Webb, W. H.	The Old Bleach Linen Company Randalstown, Ireland
Whitman, J. C.	State Civil Service Commission Sacramento, Cal.
Wilde, B.	Blackley Municipal School Blackley, England
Wright, Roy V.	Railway Age Gazette Woolworth Building, New York, N. Y.
Yoder, J. H.	The Pennsylvania Railroad Company Altoona, Pa.
Total	111

OFFICERS FOR 1919–1920

President

W. W. KINCAID

The Spirella Company, Inc.

Niagara Falls, N. Y.

First Vice-President

ARTHUR H. YOUNG

International Harvester Company

Chicago, Ill.

Second Vice-President

JAMES H. RAND

The Rand Company

North Tonawanda, N. Y.

Secretary

DR. LEE GALLOWAY

New York University

New York, N. Y.

Treasurer and Managing Director

F. C. HENDERSCHOTT

The New York Edison Company

New York, N. Y.

EXECUTIVE COMMITTEE FOR 1919–1920

SYDNEY W. ASHE
General Electric Company
Pittsfield, Mass.

C. E. BILTON
The Bilton Machine Tool Company
Bridgeport, Conn.

CARL S. COLER
Westinghouse Electric & Manufacturing Company
East Pittsburgh, Pa.

F. C. HENDERSCHOTT
The New York Edison Company
New York, N. Y.

JOHN McLEOD
Carnegie Steel Company
Pittsburgh, Pa.

L. L. PARK
American Locomotive Company
Schenectady, N. Y.

DR. H. M. ROWE
The H. M. Rowe Company
Baltimore, Md.

George N. VanDerhoef
Dodge Manufacturing Company
New York, N. Y.

K. W. Waterson
American Telephone & Telegraph Company
New York, N. Y.

Mont H. Wright
John B. Stetson Company
Philadelphia, Pa.

CONSTITUTION

OF

THE NATIONAL ASSOCIATION OF CORPORATION SCHOOLS

Organized January 24, 1913

CONSTITUTION APPROVED AND EFFECTIVE
APRIL 4, 1913

Revised and Adopted, June 2, 1916

ARTICLE I

NAME

The name of this organization is The National Association of Corporation Schools.

ARTICLE II

OBJECT

Section 1.—The object is to aid corporations in the education of their employes:

(1) By providing a forum for the interchange of ideas.

(2) By collecting, and making available, data as to successful and unsuccessful plans of developing the efficiency of the individual employe.

ARTICLE III

MEMBERSHIP

Section 1.—Members shall be divided into three Classes: Class A (Company Members), Class B (Members), Class C (Associate Members).

Section 2.—Class A members shall be commercial, industrial, transportation or governmental organizations, whether under corporation, firm or individual ownership, which now are or may be interested in the education of their employes. They shall be entitled, through their properly accredited representative, to attend all meetings of the Association, to vote and to hold office.

Section 3.—Class B members shall be any employe of a Class A member. They shall be entitled to hold office and to attend all general meetings of the Association.

Section 4.—Class C members shall be those not eligible for membership in Class A or Class B who are in sympathy with the objects of the Association. They shall be entitled to attend all general meetings of the Association.

ARTICLE IV

OFFICERS

Section 1.—The officers shall be a President, a First and a Second Vice-President, an Executive Committee, a Secretary, and a Treasurer.

Section 2.—The President and Vice-Presidents shall be elected from Class A or Class B members to serve one year or until their successors shall have been elected. The President shall be ineligible to re-election for two years after his term has expired. The President shall preside at all meetings of the Association and of the Executive Committee, and shall perform such other duties as may be provided for in this Constitution or by vote of the Association. In case of the absence, disability or death of the President, his office shall be filled by the Senior Vice-President.

Section 3.—The Executive Committee shall consist of a President, First and Second Vice-Presidents and nine members, at least six of whom shall be elected from Class A and the balance may be elected from Class B; also the retiring President shall automatically serve as a member on the Executive Committee for a period of one year after the expiration of his term of office as President. Three members of the nine members shall be chosen at each Annual Meeting and shall hold office for three years or until their successors are elected.

Section 4.—The Executive Committee shall be the governing body of the Association, subject to this Constitution and such special rules or regulations as may be adopted by the Association from time to time, and shall manage its affairs, pass upon all applications for membership and upon the eligibility of representatives. Five members of the Committee shall constitute a quorum.

Section 5.—The Secretary shall be appointed by the Executive Committee. He shall serve for one year or until his successor is appointed. He may be a member of any class, shall be eligible for reappointment without limit and shall perform such duties as the Executive Committee may direct.

Section 6.—The Treasurer shall be appointed in the same manner as the Secretary, shall serve for a like term, and shall perform the duties assigned to him by the Executive Committee, subject to its approval. He shall give a security bond for such sum and with such qualifications as the Executive Committee may from time to time determine. The offices of the Secretary and Treasurer may be filled by the same person.

ARTICLE V

MEETINGS

Section 1.—The Annual Meeting shall be held in such places and on such dates as the Executive Committee may determine.

ARTICLE VI

QUORUM

Twenty-five Class A members shall constitute a quorum for the transaction of business.

ARTICLE VII

DUES

Section 1.—The annual dues of Class A members shall be $100.00.

Section 2.—The annual dues of Class B members shall be $5.00, and annual dues of Class C members shall be $10.00.

Section 3.—All dues shall be payable in advance and shall cover the calendar year. New Class A members joining between January 1st and April 1st shall pay first year's dues of $100.00; those joining between April 1st and July 1st shall pay nine months' dues or $75.00; those joining between July 1st and October 1st shall pay six months' dues or $50.00; those joining between October 1st and December 31st shall pay three months' dues or $25.00, but for subsequent years shall pay full dues of $100.00. Any members in arrears for three months shall be dropped by the Executive Committee unless in its judgment sufficient reasons shall exist for continuing members on the roll.

ARTICLE VIII

ELECTION OF OFFICERS

Section 1.—At a meeting limited to Class A members, held at the time of the Annual Meeting, there shall be elected from representatives of Class A members a Nominating Committee of five members. Said Nominating Committee shall make its report to the Association through the Secretary not later than thirty days preceding the election. Within two days notification of the nominations shall be made in a circular to all Class A members.

Section 2.—The submission of names by the Nominating Committee shall not debar any accredited representative of a Class A member from making nominations, which nominations, if seconded, shall be submitted for election at the same time and in the same manner as those of the Nominating Committee.

Section 3.—Whenever there are more nominees than vacancies, the election shall be by ballot. Otherwise the Secretary shall be instructed by viva voce vote to cast the ballot for nominees.

Section 4.—Vacancies in office may be filled by the Executive Committee until the next Annual Meeting of the Association.

ARTICLE IX

PERMANENT OFFICE

The office of the Association shall be located at a place to be determined by the Executive Committee.

ARTICLE X

PUBLICATION

The Association shall publish a monthly magazine, to be called "The National Association of Corporation Schools Bulletin," which shall be under the direction of the Secretary, subject to the approval of the Executive Committee as to the policy and scope thereof and the expenditures therefor. The annual subscription price of The National Association of Corporation Schools Bulletin shall be $2.00, and is included in the annual dues of the members.

ARTICLE XI

PARLIAMENTARY RULES

Roberts' "Rules of Order" shall govern in all cases not definitely provided for in this Constitution or in rules or By-Laws of the Association.

ARTICLE XII

AMENDMENTS

Section 1.—Amendments to this Constitution shall be offered in writing and must be signed by the accredited delegates of not less than five member companies. Amendments so signed must be in the hands of the Secretary of the Association not less than forty days in advance of the Annual Meeting. Notice of the proposed amendment or amendments shall be mailed to the members not less than thirty days before the Annual Meeting.

Section 2.—A two-thirds vote of all Class A members present at an Annual Meeting shall be necessary for the adoption of any amendment.

OPENING OF THE CONVENTION

MINUTES

First General Session

MONDAY EVENING—JUNE 2, 1919

The meeting was called to order by Dr. H. M. Rowe, President of The National Association of Corporation Schools, at 8:30 o'clock.

PRESIDENT ROWE: I have the honor of calling the Seventh Annual Convention of The National Association of Corporation Schools to order and take pleasure in introducing Mr. Fred R. Jenkins, Chairman of the Chicago Local Chapter, who will deliver an address of welcome.

ADDRESS OF WELCOME

FRED R. JENKINS

Commonwealth Edison Company

Chicago, Illinois

Mr. President, Delegates, Ladies and Gentlemen: It is, indeed, an easy task to welcome you to Chicago. The fact that you are welcome goes without saying. In Chicago, like in other large cities, welcomes are daily occurrences. This morning many of you witnessed the hearty reception the people of Chicago gave to some of the boys of the Prairie Division and later in the week you will see a similar demonstration for the remainder of this Division. It is with this same spirit of enthusiastic hospitality that we welcome the friends and members of The National Association of Corporation Schools as our guests.

The committees of the Chicago Chapter have provided facilities which we think will give every opportunity for a very successful convention, and from the program that has been made up, there seems to be no doubt but that we will have a convention here that will equal any of our previous conventions and we hope will surpass them.

When I first came to Chicago, a great many years ago—too many to call particular attention to now—everyone was boosting for Chicago. All the inhabitants and all the newspapers were boosting and the result was that Chicago grew by leaps and bounds. We boosted so energetically and with such good results that some cities had to prefix the word Greater to their names to keep ahead of us.

Unfortunately, within the past ten years, our inhabitants and some of our newspapers have taken to a policy of criticising or, rather, "knocking," and no doubt there are people in this room who have a very poor opinion of Chicago, due to the fact that newspapers of other cities have copied these critical articles. We trust, however, that any unpleasant impressions you may have about Chicago may be removed before you leave. We have provided some entertainment and we trust that you will form your own pleasant opinions of Chicago and of our Chicago welcome.

Of course, at conventions of this kind, the main object is work. The entertainment features are really few, but such as they are, we hope they will be much enjoyed, and that you will carry away your own impressions of our city, regardless of what may be said by some of our newspapers.

In closing, I officially welcome you in the name of the Chicago Chapter, and unofficially in the name of Chicago, and trust that the convention will be all that can be desired. (Applause.)

RESPONSE BY THE PRESIDENT

DR. ROWE

The H. M. Rowe Company

Baltimore, Maryland

Mr. Jenkins, Ladies and Gentlemen: I see that I am to respond to this address of welcome. Now, an address of welcome does not mean what it did a few years ago. At that time the address of welcome was usually made by the Mayor of the City, who always turned over the keys of the city to the delegates. That generally amounted to something and does now—that is, until the first of July.

We did not need any welcome to Chicago, but we were particularly appreciative of the invitation that was extended to us to hold our meeting here, and we are very grateful for the cordial wlecome which has been extended to us.

Gentlemen, Mr. Jenkins spoke very truly about Chicago. Chicago has a national, an international, and a world-wide reputation for being an exceedingly hospitable city. It also has the name of being a great "booster" city. It could not be otherwise, because of its geographical location, if nothing else. Situated here on the borders of the great plains of the West, the South and the East, with the great expanse of Lake Michigan on the North, it is evident that if there is any wind on the face of the earth, Chicago is bound to be right in the center of it. (Laughter and applause.)

Now, in view of the invitation so graciously extended by the Chairman of the Chicago Local Chapter and the acquaintances and pleasurable relations that will be established during the week, between the members of this great organization, I am sure I can voice for those present their feeling of pleasure in being present on this occasion.

If you will permit me, I will consider this as the close of my response to the address of welcome of the distinguished gentleman, the Chairman of the Chicago Local Chapter, and I promise I will not be very long in disposing of the next item on the program, which is entitled "President's Annual Address."

The honor of presiding at meetings of this kind has been bestowed upon me a good many times, but I must confess I was never quite so uncertain as to what I should select from the great mass of material that is available to present to you. What I say I should like to have you consider simply as a conversation with you touching upon those things which I, and for the most part, I think, the members of the Executive Committee, consider to be of special importance for your consideration, looking towards the future of this Association.

PRESIDENT'S ADDRESS

No one engaged in administering the affairs of this Association in cooperation with its other officers even for a single year could avoid meeting with many problems that are sometimes not only quite perplexing, but that also lead to many suggestions as to ways and means of improving and bettering the work of the Association. The impression received at my first attendance at its meetings was that the magnitude of the opportunity for doing work of unequaled importance in industry was highly, but only partially, appreciated. The longer I am with the Association, the more firmly fixed is that conviction.

In view of the general publicity given to the Proceedings of the Executive Committee during the year, not even a recapitulation of its work need be made by me, with a few exceptions. The general matters of interest in connection therewith will doubtless be referred to by the Executive Secretary in his report. I shall therefore confine myself in what I have to say to suggestions that relate to the future rather than to what is past and accomplished. In offering these suggestions I feel that the members of your Executive Committee are in agreement with me that they should have your careful attention and consideration.

Present Organization

1. This Association is now a purely cooperative body depending for its cohesion largely upon the sustained cooperative interest of its members. Its income is derived entirely from the dues fixed for the various classes of members. These dues, I have oberved, are very much lower than the dues of many similar organizations wherein the returns to members are in no way of equal value. Our income is very much below that which is necessary for the maintenance of the work of the organization as it should be conducted and as it is possible to conduct it. We are continually confronted with the lack of sufficient funds in

working out ways and means to deliver to our membership many kinds of service for which there is a distinct demand, and which would present a splendid return for any capital that might be invested in their furtherance.

As you know, our Association was started by a few men who were inspired by the realization of the tremendous possibilities that might result from cooperative service effort. It started without money, and it has been compelled, as I have said, to limit its operations to the amount of money received from dues. The maintenance of our membership with the steady increase in its number and the multiplication of interests in the work of the Association since its beginning, always living within its means, is perhaps the most remarkable feature in the history of organizations having a similar purpose. The opportunities for the spending of larger sums of money advantageously and to the great benefit of our members have been continuous from the start.

In this connection I think I am justified in saying that if it had not been for the very generous and unselfish contributions that have come in the form of office space and clerical service, which came as a free-will offering from a single member company in whose building the executive offices are now maintained, it would have been found most difficult to accomplish the amount of work that has been done. We are heavy debtors in this respect, particularly since there has never been the slightest attempt to interfere in any way with the operations of our Association as they were conducted by its officers and Executive Committee. I am frank to say that I have at times felt that this courteous extension of opportunity to continue our work at low cost has hardly been understood as it deserves to be.

I have information in this direction that justifies me in saying that at as early a date as possible the Association should make provision for providing the expense of its operation in its own quarters wherever they may be located. Perhaps some better realization of the value of the benefits received in this direction may be had when I say to you that they amount annually to more than double the salary paid to our single paid officer, measured in the form of rent, clerk hire, and all of the other expenses connected with the maintenance of a separate office; in other words, the value of the service we have received has been equal to the salary of our Executive Secretary and more than as much more.

Future Organization

2. In considering ways and means to strengthen our financial status, and to extend the usefulness of our organization to meet the demands that are being made upon it, the Executive Committee has been impressed with the necessity of adopting some form of incorporation for this Association. There are many good reasons for this conclusion. One is that some such step seems to be necessary to secure a more stable basis for our existence, perhaps resting in the authority of a fixed board of trustees for the maintenance of its general policies in the management of its affairs. Certainly some form of incorporation must be adopted before we can expect any substantial support in the securing of revenues to carry on the work that is beyond our reach with our present income. I think we are all agreed that an incorporated institution creates in the public mind a certain impression of substantiability that cannot otherwise be secured, which naturally creates in the public mind a more favorable impression, and has the other effect of removing it from the class of organization that is more or less personal and individual in its character, in its management, and in its relations with those with whom it comes in contact.

I realize that differences of opinion will likely exist as to what extent financial assistance from any source outside of our membership should be accepted, no matter what form of organization may be had, but it has been very clearly demonstrated during my administration that to supply service of the kind that is wanted, nothing approaching the maximum effectiveness of our operations in rendering assistance to industry can be accomplished unless larger revenues shall be secured from some source, either by largely increasing our annual dues or accepting donations, in trust if need be, or for carrying out specific purposes and enterprises of particular importance, or of receiving general donations or endowments in trust for the general purposes of our Association. These are matters, however, that may be safely left to be worked out consistently with the policies that shall be adopted by our Association as the opportunities for such assistance present themselves.

Change of Name

3. We have long since outgrown the original purpose indicated in the name of the Association as it now stands. It has been discovered that the use of this name, "The National Association of Corporation Schools," has created, outside of those who have been familiar with its history, a very wrong impression, particularly in the minds of prospective members, as to its real functions and activities. The word "schools," for instance, indicates that it is an association of schools. This is true to the extent that it is an association of representatives of schools and training methods, but in recent years our activities have gone far beyond those limitations. Our field has extended until it includes representation and participation in every phase of industrial interest involving training. It has, in fact, become a society of industrialists, all members having something to do with some form of training and education in industry.

This proposed change of name should properly be considered in connection with the question of our becoming incorporated. I recommend, with the approval of the Executive Committee, these matters touching incorporation and the change of name to your very earnest and thoughtful consideration, because they are much more far-reaching in their effect and influences upon our future and in working out our destinies than might be anticipated at first thought. I also feel that prompt action should be taken upon these matters as soon as they can be thoroughly discussed and understood.

Future Reports

4. With a reorganization upon more definite lines such as I have suggested in the preceding paragraphs, conservation of effort in definite, intensive lines of cooperative activity would seem to be the most important general objective in our future operations. It is for such purposes that substantial donations or endowments might be used, whether their purposes be general or special.

There is always some objection to receiving blanket endowments since in almost every such instance there is the fear that something that would interfere with the established purposes and plans of prior organization might develop in the course of time, but again my answer is that should the opportunity for revenues outside of our own dues become possible, proper provision can be made for rejection of any proposition submitted in terms that would make such results possible; in other words, the mere offer of money for our purposes does not necessitate its acceptance.

Cooperation

5. I dislike to say it; it is not pleasant to say it, but I am going to say with all the force that I possess, that during my administration, which has covered something over a year, owing to the absence of my predecessor in Government service, I have discovered some conditions that suggest lack of real cooperation from and between our members and the Executive forces which is absolutely necessary and imperative in organizations such as this. It is difficult to account for this in view of the extraordinary and, in many directions, the exclusive and invaluable services that have been offered and rendered to members. Some inquiry to ascertain the cause of this lack of cooperation has revealed that many of our Member Companies even at this moment have a very inadequate idea of what we are doing, and of the great benefits to which they are entitled but which have never been used or even known of. I have found that many of our published reports are not read, nor applied, nor considered in the work of a particular Member Company with respect to the various topics or subjects of special interest with which it may have had to deal. In other words, we have Member Companies who have missed entirely the real purpose and exactly the purpose for which we are organized, and from which they would receive the largest returns from their membership. Just one phase of this is illustrated by the fact that our Executive Office has many times been asked for information touching this or that matter which was fully given, discussed and explained in copies of reports or Proceedings which were and had been in the hands of those making the request for months and years previous to the time of the request.

How to Make the Largest Use of Information Supplied

6. In studying the results accomplished in such training efforts as have been carried on by our Member Companies, it

has seemed to me that in order to make the largest use of the assistance which this Association can render, in each Member Company conducting any sort of training or educational work there should be placed in charge of that work some responsible person who shall occupy his position either as designated training director or as the head of a distinctive department relating to the educational purposes of that company. Such a person may be some other one than the representative of the Class "A" Member Company in this organization. This matter is so important that I venture to suggest that the appointment of such a responsible and competent head of the training department should be made a part of the contract between Class "A" members and this Association where the Member Company carries on training work.

I might give many detailed instances of the results, the unsatisfactory results which have followed a lack of the responsible representation of the interests of the Member Company in our efforts to render service and provide helpful information. As it now is, there is too much lost motion between the source of information, which is in our headquarters, and its final destination in the business concern, where the information is needed; in fact, in many instances such information and help and assistance as might be rendered with great profit never reaches anywhere or comes under the notice of anyone that has an understanding of its value and of the local information to have it reach the spot in corporate organization where its usefulness may be appreciated and understood. It must be recognized that all efforts of this Association touch upon some training problem, and for that reason every document emanating from our headquarters should go direct to a responsible individual who has knowledge of the training needs in every department of the Member Company receiving it. This individual can, in turn, after an analysis of its content, distribute it so as to bring it to the direct attention of the various members of the organization who most need it, and they, in turn, would pass it on down the line until it finally had served its full purpose and value. It does not seem to be realized by many of our members that the various publications, documents and literature of this Association are now found in every important library, and in the library of every important institution of learning in the United States; that the compilation of our deliberations during the short period of our existence has secured recognition of the most learned men of our times, and has attained to a greater degree of authority in matters discussed and determined than any other series of publications touching our field of activities that have ever been issued.

Local Chapters

7. In this matter of making available in the largest degree the literature of the Association and the factors of educational training which are made available in this literature, and to discuss ways and means to meet the wants of a particular type of commercial or industrial concern, we think we have found the real best method and solution through the establishment of Local Chapters. It is not expected that all of our literature would be of equal importance at all points. The wants of business and the assistance desired to help meet these wants vary greatly in different localities; for instance, the reports of certain of our committees would be of little value in certain sections. Other reports would be of great value. In a neighboring city or town the value of these reports might be substantially reversed. The idea lying back of the Local Chapter is not new in business administration, and in connection with the organizations covering widely separated territories, as is shown in the annual and not infrequently the semi-annual, quarterly and monthly meetings of the representatives of different industries when they confer upon all the problems common to that particular business. The Local Chapter is an adaptation of that idea, which was first suggested by Mr. McLeod, our esteemed former president, who brought it to the attention of this body.

Of course, it has required some time to develop the possibilities of the Local Chapter to show their real value, and, in fact, nowhere has the idea yet been worked out to its full fruition. Perhaps the best illustration we have is in the work of the Pittsburgh Chapter. They are really doing wonderful things there, and they have hardly made a start. The Chicago Chapter, whose guests we are, is another example of the application of the form of utilizing our teachings in reports and our information for the best interests of local concerns.

The chapter idea has another important feature. It solves in the most practical and satisfactory way the question of extension of membership, not only Class "A" membership, but also Class "B" and Class "C" memberships. Let us give earnest and thoughtful support to the Local Chapter. Wherever two or three of common interest can be gathered together let them gather together and gather in as many more as they can; form a local chapter and go to work. They will be repaid many times in the results that can be secured.

Some Special Efforts

I shall refer very briefly to some of the special efforts made during the last year, which, while they did not accomplish all we had hoped for, did teach some valuable lessons. One of our attempts was to work out a practical plan that would make available direct contributions of assistance to Member Companies in working out certain problems of administration and operation. That such a plan could be formulated was suggested so frequently and earnestly that finally a committee was appointed to give it consideration. The need seemed to be quite apparent, but the plan of working out such a scheme when it was attempted proved to be quite an entirely different matter. It was so difficult, in fact, that the committee reported finally that for the present at least our activities in this direction should be limited to referring to professional specialists such inquiries as were received for help of the kind they could furnish.

Another attempt that had a dual purpose was in the employment of a field representative. It was thought it would be possible to ascertain and supply the wants of Member Companies to some degree in the way of suggestions and reports of the experiences of other concerns dealing with the same problems, and at the same time additional memberships could be secured. The effort was not successful.

Still a third general proposition was taken up which had for its purpose the inauguration of a special drive to secure members. Although that had been attempted once before, with negligible success, the new suggestion was based on an entirely different plan, and it presented so many attractive features that it was thoroughly canvassed, but finally, at the last meeting of the Executive Committee, it was decided to suspend any attempt in this direction for the present because of the great expense attached, and particularly because of the conviction that was finally reached that our real increase in membership must after all come largely through the quality of the service we render to our members and to their interests, and to the advantage of our Association that will be manifested in the activities of the Local Chapters as they grow and develop. I, personally, am convinced of the correctness of this conclusion. I could not be convinced that once our work is properly understood, and the real benefits that may be derived from membership is made apparent, that there would be any lack in securing members as rapidly as we can take proper care of them.

I would like to say in this connection that in my opinion we should relegate the question of increased membership permanently to a place of secondary importance, and that instead we should, through the membership we now have, and through the continual betterment of the service we render, so strengthen our Association in its usefulness as an essential element in commercial and industrial activities that business concerns will come to it for the help and assistance which is really not obtainable elsewhere. On the other hand, and supplementing this proposition, I most earnestly request our members to leave no opportunity pass when the value and importance of membership in our Association can be explained and emphasize to other concerns that should become members. Such an increase in membership is a substantial increase, and a desirable increase, and a permanent increase, and one that will be worth having, and that will give us a solid foundation upon which to develop the future activities of our own organization. As an illustration, the last three Class "A" members received prior to May 16 were secured by an act of cooperation on the part of two present members and the Executive Secretary. This happening has been duplicated in any number of instances; indeed, there is much in this connection that I am sure the Executive Secretary will take time to refer to in his report, which will come from him with more emphasis than from me.

In Conclusion

As a last word, perhaps the most important conviction I have, growing out of my experience while acting as your president, has been the necessity for "sticking to our bush," and of adhering strictly to the well-defined purposes of our organization. My advice would be that under no circumstances should we be prevailed upon to become separated in the slightest degree from our own job that we have laid out for ourselves, no matter how attractive may be the offers, and how insistent may be the requests that come to us to join and participate in some form of combination with the affairs of other organizations that may touch upon some one or more of our particular activities. Let us maintain our own establishment, and particularly let us avoid the entanglements of outside alliances. In this I am but repeating the advice of the most eminent gentleman who was our president a few years ago, Dr. Steinmetz. The good common sense he expressed in the statement of his views in this connection has been emphasized in many ways and directions from the time it was made, and particularly during my administration. I close with an expression of most cordial and appreciative gratitude for the uniform courtesy that has been extended toward me in my occupancy of the presidency of this Association. It is not my intention to relax my interest in what I consider the most useful educational movement of our times. I have formed many intimate friendships which I shall always cherish, and if there is anyone here who has not yet become a friend of mine, he can accomplish that desire, if he has it, at any time he tells me he is a member of The National Association of Corporation Schools.

If I were to extend my remarks to touch upon some of the very important ethical phases that contribute to the progress of industry, I would say to you that it is through wholesome friendship and because of wholesome friendship and respect between the membership of this Association that the largest successes can be achieved. Good friends do not wrangle; neither do they create dissensions. No successful organization can maintain its success if such things are permitted to obtrude.

Again expressing my high appreciation of the honor that has been bestowed upon me in being chosen as your president, and of being known in an Association of such dignified gentlemen, I close my remarks.

PRESIDENT ROWE: The next item on our program is the Executive Secretary's Annual Report. I take great pleasure in introducing Mr. F. C. Henderschott, our Executive Secretary.

ANNUAL REPORT OF THE EXECUTIVE SECRETARY

Mr. President and Members: At the time of the Buffalo Convention, June, 1917, the United States had entered the world war. Our Association then unanimously pledged its resources and the services of its members to the Government. All other activities were of minor importance compared with the necessity of winning the war.

In 1918 the Executive Committee decided that conditions did not warrant the holding of an annual convention, but instructed the Executive Secretary to conduct a mail vote for new officers to be elected in accordance with the Constitution, to issue an annual volume of Proceedings, to conduct a mail discussion on the sub-committee reports, and that the routine activities of the Association be carried on as usual.

Membership

Due to the war, the loss in membership was slightly greater than the losses experienced during previous years. The yearly loss in Class "A" membership had averaged about ten (10%) per cent prior to the Buffalo Convention, and this percentage rose to about fourteen for 1918.

At the time of the Pittsburgh Convention, June, 1916, Class "A" membership was 102. The increase during the following year to June, 1918, was fourteen, and at the close of 1918 the total Class "A" membership was one hundred twenty. Two of the companies having membership, however, had failed. The total loss of Class "A" memberships at the renewal period, January, 1919, was eighteen. This included, however, four railroads which were forbidden by the Director General of Railroads to continue their membership in our Association while the roads were under governmental control. Deducting this temporary loss, the net was fourteen, or slightly in excess of previous years. During the current year, however, the gain has been more rapid, and at the time this report is compiled Class "A" membership stands at one hundred twenty-two. The gain in Class "B" and Class "C" memberships has also been more pronounced during the current year, and each of these classes of membership now stands at the highest total since our Association was organized. The importance of increasing Class "A" membership cannot be overestimated, as it is from this source that most of the Association's revenue is derived. Six companies which had withdrawn from Class "A" membership have recently rejoined the Association.

Confidential and Special Reports

Early in 1918 the Executive Committee authorized the Executive Secretary to issue Confidential and Special Reports. Three Confidential Reports have been issued on the subjects, "Labor Turnover," "The Present Status of Business Correspondence" and "Industrial-Educational Problems of the Reconstruction Period." The first report was issued in May, 1918, the second in October, the third in February of this year. The first two reports were exhausted and second editions have been printed. Three Special Reports also have been issued. These reports are in the nature of indexes and references to the information contained in the bound volumes of Proceedings. The subjects covered are "Trade Apprenticeship," "Office Work Training," and "Industrial Educational Methods." The plan is to issue at least two Confidential and two Special Reports each calendar year. These reports are available to Class "A" members only. Many requests have been received from other sources, but the Executive Committee has adhered to its original decision, being influenced largely by the fact that Class "A" membership must be made attractive in order to secure the necessary revenue with which to finance the activities of our Association.

Local Chapters

In 1918, at the suggestion of the Chairman of the Sub-Committee on Local Chapters, the activities of this Committee were transferred to the Executive Secretary. Four Chapters have been organized in Chicago, Pittsburgh, Philadelphia and New York. Through the activities of the Chapters, valuable information has developed. Especially is this true in connection with the work of the Pittsburgh Chapter. The Local Chapter offers a valuable and constructive medium through which our Association can operate in the various sections of the country, more especially in industrial communities. Every encouragement should be given to Local Chapters and new Chapters organized wherever conditions are favorable.

Sub-Committee Reports

Many of our members who had been active in the work of the sub-committees were in Government service during 1918 and the early part of the present year. Notwithstanding this handicap, the services of additional volunteers have been utilized and the reports of the sub-committee which are to be presented at this convention are most comprehensive and definite. The Executive Committee plans to appoint additional sub-committees to consider problems now demanding increasing attention on the part of managements of industrial institutions. The list includes further investigation and study of "Labor Turnover," "Employe Representation in Management," and other subjects bearing on the relations of stockholders, management and employed are being considered to determine whether or not their treatment by sub-committees would prove of value. Some of the subjects which have been investigated and reported upon may be at least temporarily discontinued. Practically all valuable data have been placed before our membership on some of these subjects.

1918 Proceedings

Complying with the order of the Executive Committee, Proceedings were published for 1918, notwithstanding no annual convention was held. Sub-committee reports were printed and sent to our members and a mail discussion invited, and while the amount of this discussion was small, nevertheless a volume was issued which has been much in demand, and the continuity of the annual volumes was maintained. Theses developed by students of our Association's Course at New York University were included in the report and have been much in demand, especially on the part of industrial institutions which have not yet inaugurated educational courses. Universities and other secondary educational institutions continue to be liberal purchasers of the annual bound volumes of Proceedings and the number of public libraries which maintain for their readers complete sets of these volumes is constantly increasing. Some of the educational institutions have purchased additional sets of the bound volumes, furnishing the gratifying information that the demand from the faculty and students was so great that one set was not sufficient for their requirements. In this respect our Association has become an important factor in changing the attitude of educational institutions toward industrial educational requirements.

Monthly Bulletin

The value of the monthly Bulletin has steadily appreciated, due in large part to the amount of information that has become available. As the educational activities of our member companies have developed, helpful information became available and this information is gathered and included in the Bulletin. As Class "A" membership includes twenty (20) subscriptions to the Bulletin, it is now possible to get this constructive information into the hands of the more active and progressive officials in our member companies. There also has been a steadily increasing number of subscriptions on the part of educational institutions and public libraries.

Consulting Service

During the past year, but more especially during the past few months, our member companies have availed themselves of the privilege of a consulting service on the part of the Executive Secretary. This service includes the reviewing of educational courses and the furnishing of information along the lines of personnel activities, such as employment problems, profit-sharing data, health education, the value of musical organizations among employes of industrial institutions, the extent to which vacations are granted to employes of member companies and other similar topics. The mail of the Executive Secretary has steadily increased, and all inquiries have been promptly answered, giving as complete information as could be secured. Personal consultation has also shown a considerable increase during the year.

Publicity

The plan of securing publicity for our Association and its activities which was adopted at the time our Association was organized has been strictly adhered to. Requests from editors for information have in all cases been promptly furnished. In connection with the present convention an article was prepared and sent to about 425 publications, and a gratifying amount of publicity was received. Editors of well-known publications have requested that information be furnished from time to time as the activities of our Association develop. These requests have been listed and will be complied with. The policy of our Association as to publicity has always been conservative, and this policy is now showing gratifying results. Having made no overstatements, and having claimed credit only for actual accomplishments, the press of the country has assumed a favorable attitude toward our Association and its activities.

Revision of the Constitution

In connection with the discussion of the desirability of changing the name of our Association has arisen the possible advantages that could be gained by some changes in the Constitution. The desirability of revising the Constitution for Local Chapters has also been brought to the attention of the Executive Secretary.

Scope of Activities

Prior to the Fifth Annual Convention, held at Buffalo, the Executive Committee approved of our Association including in its activities all problems which might be classified under personnel relations in industry, such activities, however, to be treated largely from an educational standpoint. This decision could in no way be considered as a change in policy, but rather as a recognition of the broadening of the field in which our Association prosecutes its work. Complying with this decision, effort has been made to bring to the attention of our members information bearing upon problems which previously had not been treated. Some of the more important of these problems are employe representation in management, labor turnover and similar topics, which at the moment are receiving much attention. The effort is not to discuss these problems, but to bring to the attention of our members information concerning these problems and their developments.

Annual Conventions

With the present convention the policy of holding the annual meetings as guests of Local Chapters is inaugurated. The New

York Local Chapter has asked for the privilege of entertaining the 1920 Convention, which request has been granted by the Executive Committee. It is believed that this policy, determined upon at the Buffalo Convention, will materially aid Local Chapters in extending their usefulness in the communities in which they serve.

Educational Directors

At the Buffalo Convention your Executive Secretary drew to your attention the demand for capable directors and instructors in corporation schools, and a course was inaugurated at New York University in the hope that this action would meet the demands. Two classes have been graduated, averaging about twenty members each, and of this number approximately one-half have secured positions in industry and are doing creditable work, but it is apparent that the need is much broader than this plan will supply. I therefore call to the attention of our members the desirability of holding a summer course. As soon as such a plan could be worked out—the duration of the course to be from four to six weeks—concentrated study could be made not only of the duties of a director of a corporation school, but other problems falling within the scope of personnel relations could be treated.

Increasing Class "A" Membership

Your Executive Committee has given much thought to possible plans which might be utilized in increasing Class "A" memberships. The greatest potential force is our present membership. At the Buffalo Convention pledges were made, but the fulfilment of these pledges was seriously interfered with by conditions due to the war. The cost of administering our Association with two hundred members would not be materially greater than the present cost, but the additional revenue could be utilized to further increase the value of service our Association would be able to render. May I suggest that this matter be given serious consideration, not only by the delegates present, but by every member of our Association present? So far this year our membership gain has averaged approximately a new Class "A" membership each week.

The Development of Standards

The degree of excellence which has been attained by the sub-committees in their annual reports suggests the advisability of devising standards as the result of experience gained by the sub-committees in their work. It would seem desirable that the new president call the chairmen of all the sub-committees to a conference at as early a date as can be arranged, where the question of best methods for securing data, classifying these data, and utilizing them in annual reports could be discussed. If, as a result of such discussion, feasible standards be agreed upon, all of the sub-committees could then utilize the most efficient methods in carrying on their activities.

Problems for Future Confidential and Special Reports

At the time the Confidential and Special Report service was inaugurated there were a limited number of topics which could be treated, but if this service is to continue, new subjects must be discovered. Subjects agreed upon for future Confidential Reports are employe representation in management and profit-sharing plans. For future Special Reports the subject of health education, training of minor executives, and training for marketing and salesmanship will be treated. Subjects for feature articles in the Bulletin are vacations and musical organizations as a factor in industrial management.

Conclusion

In closing this report, I desire to acknowledge the hearty and earnest support I have received from President Rowe. All during the difficult period of the war our President has exercised a constant and helpful influence and has never been too busy to cooperate along any lines which gave promise of increasing the value of our Association's activities. All other officers and members of the Executive Committee have given helpful cooperation. May I also extend thanks to The New York Edison Company for its continued support in furnishing clerical help, office space, etc., and to The Equitable Life Assurance Society for the services of Mr. M. T. Chernich in making the annual audit of our Association's books?

President Rowe: I think I have been guilty of a most grievous oversight in not mentioning in my remarks my appreciation of the services of the Chairmen of Committees and the other members of committees. *I am suffering greatly from poor sight, and this light is particularly powerful, and I missed two or three sections in reading what I wanted to say, in shortening up my paper, and I missed that.* I want to publicly express my appreciation of the fine work the members of the committee have done. I have corresponded with all of them, and they have taken hold of the work in good shape. The Committeemen of this Association are a tremendous factor in its success, and I want you to know that their efforts are fully appreciated by the officers.

Mr. F. C. Henderschott, Treasurer of the Association, will now read his annual report.

TREASURER HENDERSCHOTT: The report of the Treasurer, when made up, was audited by Mr. M. T. Chernich, the official auditor of the Association, and approved by the Executive Committee.

The statement is from July 17th, 1918, to May 16th, 1919, about ten months. The reason for the discrepancy in the dates is that no convention was held last year, and the books were audited a little later than usual.

STATEMENT TAKEN FROM ACCOUNTS OF THE NATIONAL ASSOCIATION OF CORPORATION SCHOOLS AS OF MAY 15, 1919

AUDITED AND VERIFIED BY MR. M. T. CHERNICH

From July 17, 1918, to May 15, 1919, inclusive

Cash on hand close of accounts, July 16, 1918		$7,342.41
Receipts		
Dues Class "A"	$11,500.00	
Dues Class "B"	500.00	
Dues Class "C"	1,120.57	
First Proceedings	17.00	
Second Proceedings	23.50	
Third Proceedings	45.50	
Fourth Proceedings	275.50	
Fifth Proceedings	115.50	
Sixth Proceedings	147.00	
Bound Bulletin Subscriptions	302.88	
Interest on Bank Deposits	191.59	14,239.04
		$21,581.45
Disbursements		
Administration	$5,652.99	
Bulletins	2,890.55	
Sixth Proceedings	1,310.86	
Local Chapters	365.00	
Special, Confidential and Committee Reports	907.55	
Conventions	37.71	
	$11,164.66	
Cash Balance, May 15th, 1919	10,416.79	
		$21,581.45

RECONCILIATION OF ACCOUNT

THE NATIONAL ASSOCIATION OF CORPORATION SCHOOLS

WITH

The Farmers' Loan & Trust Co. of New York
As of Close of Accounts, May 15, 1919

Balance as per check book............. $10,416.79
Balance as per bank statement..........$11,050.00
Deduct Outstanding Checks:

No.	Date	Payee	Amount		
6	4/24/19	M. H. Wright...	$32.50		
13	5/12/19	A. H. Kellogg & Company	198.00		
14	5/12/19	W. S. Eddy.....	25.00		
15	5/15/19	Cash	5.00		
16	5/15/19	Cash	60.00		
17	5/15/19	F. C. Hendershott	250.00		
18	5/15/19	H. Baker	25.00		
19	5/15/19	Philadelphia Badge Company	37.71	633.21	
				$10,416.79	$10,416.79

The Farmers' Loan and Trust Company
22 William Street, New York

May 16, 1919.

We have to advise you that at the close of business, May 15, 1919, there was on deposit to the credit of the account of The National Association of Corporation Schools, Eleven thousand fifty 00/100 Dollars.

THE FARMERS' LOAN AND TRUST COMPANY,
By T. M. Godwin,
Assistant Cashier.

$11,050.00

FINANCIAL STATEMENT

THE NATIONAL ASSOCIATION OF CORPORATION SCHOOLS

As of May 15, 1919

Assets

Cash Balance—Farmers' Loan & Trust Co.		$10,416.79
Cash for Petty Expenses		4.53
Postage		57.34
Unpaid Dues and Subscriptions:		
Class "A" Dues	$200.00	
First Proceedings	10.00	
Second Proceedings	10.50	
Third Proceedings	20.00	
Fourth Proceedings	20.00	
Fifth Proceedings	30.00	
Sixth Proceedings	42.00	
Bound Bulletins and Bulletin Subscriptions	36.50	
		369.00

Proceedings and Bulletins on Hand:		
First Proceedings (year 1913), 117 at $1.50 per volume	$175.50	
Second Proceedings (year 1914), 332 at $2.00 per volume	664.00	
Third Proceedings (year 1915), 405 at $3.50 per volume	1,417.50	
Fourth Proceedings (year 1916), 428 at $3.50 per volume	1,498.00	
Fifth Proceedings (year 1917), 444 at $3.50 per volume	1,554.00	
Sixth Proceedings (year 1918), 547 at $2.00 per volume	1,094.00	
1915 Bound *Bulletins,* 7 at $2.50 per volume	17.50	
1917 Bound *Bulletins,* 28 at $2.50 per volume	70.00	
1918 Bound *Bulletins,* 84 at $2.50	210.00	
	$6,700.50	
Deduct 75% for loss, etc.	5,025.37	
		1,675.13
		$12,522.79

Liabilities

Andrew H. Kellogg & Co., printing, May	$143.93	

Surplus

Surplus	$12,378.86	$12,522.79

M. T. Chernich.

ANALYSIS OF DISBURSEMENTS

From July 17, 1918, to May 15, 1919, Inclusive

Administration:		
Office Salaries	$3,988.70	
Printing	487.40	
Postage	850.00	
Stationery	258.10	
Miscellaneous	68.79	
	———	$5,652.99
Bulletins:		
Postage	$403.00	
Printing	2,372.55	
Stationery	115.00	
	———	2,890.55
Sixth Proceedings:		
Printing		1,310.86
Special, Confidential and Committee Reports:		
Trade Apprenticeship—Printing	$63.75	
Confidential Report No. 2—Printing	328.65	
Special Report No. 2—Printing	170.15	
Special Report No. 3—Printing	160.00	
Report on Unskilled Labor and Americanization—Printing	71.00	
Report on Office Work Training—Printing	39.25	
Report on Methods of Instruction	74.75	
	———	907.55
Conventions:		
Badges		37.71
Local Chapters—New York, Dues	$220.00	
Philadelphia, Dues	32.50	
Pittsburgh, Dues	112.50	
	———	365.00

President Rowe: It should be explained in connection with the report of the Treasurer, that we are operating nearly at flood tide of our income, so that expenses will continue and the receipts will not continue, in proportion, and, therefore, the balance at the end of the fiscal year will go down quite a considerable amount.

I see that at nine-thirty this evening there is a reception and smoker downstairs. Therefore, if there is nothing further before us, we will adjourn to the room below and become acquainted with each other. You are dismissed for this evening.

COMMITTEE ON EXECUTIVE TRAINING

Dr. E. B. GOWIN, *Chairman*
126 West 85th Street,
New York, N. Y.

Mr. NORMAN COLLYER
528 Riverside Drive,
New York, N. Y.

Mr. J. D. GILL
THE ATLANTIC REFINING COMPANY
Philadelphia, Pa.

Mr. F. C. GREENE
GRATON & KNIGHT MFG. CO.
Worcester, Mass.

Mr. FRED R. JENKINS
COMMONWEALTH EDISON COMPANY
Chicago, Ill.

Dr. SAMUEL MacCLINTOCK
FEDERAL BOARD FOR VOCATIONAL EDUCATION
200 New Jersey Avenue, N. W.
Washington, D. C.

TUESDAY—MORNING SESSION

GENERAL SESSIONS OF THE CONVENTION

EXECUTIVE TRAINING.

TUESDAY MORNING, JUNE 3, 1919

PRESIDENT ROWE, PRESIDING.

PRESIDENT ROWE: The first report down for the morning session, entitled "Report of Committee on Personnel Relations in Industry," by Mr. Charles R. Hook, has not been received. The next gentleman who was to follow with the "Report of the Committee on Technical Training," Mr. A. B. Benedict, has been detained. However, Mr. Ashe has very kindly consented to take up the first report of the afternoon that was to have been presented by Dr. Gowin, namely, the "Report of the Committee on Executive Training." This is a most important report and one that must be full of interest to almost everyone, whether they be engaged directly in executive work or not. I take great pleasure in introducing Mr. Sydney W. Ashe, of the General Electric Company, Pittsfield, Massachusetts.

MR. SYDNEY W. ASHE (General Electric Company): Mr. President and Gentlemen, I see that one penalty of being prompt in the activities of the meetings, because when the meetings get ginning. I cannot allow this opportunity to pass, however, without saying that all who were not here last night missed a very pleasant time. It is true, we did not have enough ladies to go around, but I assure you that we had a really pleasant time last evening, and it is to be regretted that more of the members were not present at the opening reception.

I am particularly pleased in being able to participate so early in the activities of the meetings, because when the meetings get going, and we all get warmed up, the result is we do not have time enough to say much of anything, because everybody else wants to say something, and while I have not had as much time as I should have liked to have had to read over this Committee Report, it is a subject I have been much interested in for a number of years, and for a period of three years, when I was first employed at the Harrison Lamp Works of the General Electric Company, I had the pleasure of training about 200 college men a year for executive positions. These men have not all become presidents—a great many of them, however, have gone into our lamp factories in executive positions, some of them have gone into other executive positions, and since that time a good many other companies have carried on similar work. For the past six years, at our Pittsfield Works I have carried on a much wider range of educational and welfare work or so-called industrial relation work, and therefore in addition to twelve years' previous college teaching and carrying on educational courses for the electrical lighting industries, I have been able, during this period of about twenty years, to get a pretty good insight into both sides of the educational work, and in my opinion this is really one of the most important topics, the training of the executive, that we have on the program during the convention.

I do not not know of anything that is quite so important, and one in which we have all been so lax, as this matter of the training of the executive. The executive requires very special training —you have got to start out by very carefully selecting your man. Some companies have done this in a very extensive way, visiting the colleges, starting off with technical men, and taking the very best material.

Others have not only done this, but have gone a step further, and in a wiser way, looked around and selected the best talent in their own organizations.

I am a great believer in this method. Rather than looking outside for someone to fill the better positions open, look over your own organization and choose and develop the good material you already have. I think this plan gives a great deal of strength and balance to any organization.

If you want to have harmonious conditions in your factory, and your work conducted successfully, you must get the rank and file of the organization behind it and get them to believe in it. The most satisfactory way of getting men to believe in the organization is to believe in it yourself, and if you do not believe in it, you must learn to believe in it, and after you believe in it, you must convert the different ones who may be associated with you in the organization, and after you have converted them, you must convert the rank and file, and when you have them believing in it, the whole situation is changed, and the organization becomes a unit, and a more forceful organization in every respect. This matter of conversion of the rank and file takes a long time, and anybody who can go into a manufacturing organization and claim to bring about such a conversion in six or eight months is beyond my comprehension—it cannot be done. In the process you may be crucified six or seven times, but it is all in the game. I taught in college for many years, and when I went into a big organization, I was like a bull in a china shop. It took a long while for me to be trained, and I do not know whether or not all of the corners have been knocked off yet. I have not lost my enthusiasm and will not lose it, as it is the most vital thing one can have. This may be a little off the main topic, but I hope through the meetings, when the different topics are up for discussion, we will not be afraid to tell our own experiences, good and bad, and tell the facts. That is what we come here for. It is not alone to tell of the things we have found successful, but to tell of the things we found would not work out, and it seems to me that that is one of the most valuable things in connection with our meetings.

I have always been much interested in The National Association of Corporation Schools, and had a good deal to do in the early days with Dr. Galloway and Mr. Henderschott, and a few others, in getting the Association started, and I think that one of the most valuable things to all of us has been the personal contact built up in the Association during the work incidental to the Association. I think the idea of getting acquainted and knowing everybody is very helpful in work of this sort. It is an open game. If I know that Mr. Chandler has some information which I want, I write to him and get it, and if Mr. Skiff, of the National Lamp Works, has information I want, I write to him and get it, and that is the way it goes—it is a sort of open book—and if you have anything anybody else wants, you give it to them. We go in with that spirit, and keep it up, which has always been the spirit of The National Association of Corporation Schools, there is no question but what the future of the organization will be wholly successful.

Returning to report, the keynote of this report is a very important thing. I will not read the whole report through. I will simply make a note here and there. The executive with whom the rank and file comes in closest contact, the foreman, is the most important man to the worker in the organization. The president is important and the workman is important, but the foreman is the man who can either make or break the other two. He is the man immediately over a group of men, the man who comes in personal contact with the men, and if you can get him enthusiastic over educational work, he will put it across. If he does not like you and thinks you have a soft job, and stand in with the boss, that you are a luxury, and all that sort of thing, and he has no use for you, he can pull you down. The foreman is the most important man in the organization, and I am very glad that the report starts out with this item, because if there was not anything else in the report, if you could carry that one thought away with you, that the foreman is the most important man in your organization, the report would be of very great practical value. The foreman is the man you must have with you—if you have to hit him on the head or feed him, or give him some other encouragement, no matter how, if you can get him with you in this work you can make a success of it; and if you cannot get him with you, you have to stop at the start. The foreman is the king pin of the game. Bear that in mind in any of your educational work, get some of the foremen interested in the work as lecturers, draw them into it and get them to have the same feeling of enthusiasm about it that you have, and if you are successful in doing that, your work is much easier.

To show the importance of the foreman, let me illustrate. We started at the Pittsfield works, after careful consideration, a class in Americanization, selecting the men from one department. We found that the foreman of that department was a very bright fellow (he ran for Governor of Rhode Island at one time)—he was in the foundry, and I found there was a strong feeling of loyalty between that man and the various men in the foundry, representing possibly a dozen different nationalities. We had a very able young woman as teacher. I am a great believer in using young women as teachers. She was a high school teacher and a college graduate, the head of one of our departments.

After we got going a little while—half way into the course—we decided we wanted the foreman actively interested in the course, and we made arrangements so that the foreman would teach part of the work relating to foundry practice. Later we introduced moving pictures, so that we would have moving picture films showing the processes of the work in the foundry and also films on Americanization topics.

After this class had been started, if you had taken away the personality of the instructor, if you had taken away the movies and removed the personal contact between the foreman and the men, the class would have fallen to pieces. The foreman not only was a great asset to the class, but it was good for him as well. By making a teacher out of him, he assumed a different relationship to these men, and the result was, he was able to get the men to attend these classes, giving up their noon hour in order to do so. If you can, draw the foreman into your work, as this is very important.

As to the methods of training, this Report says: "Of the fifty-four member companies from whom data have been secured, twenty-four had no organized methods." It is rather surprising how many companies have no organized methods of conducting educational work. In this connection, I have another idea. I think the great difficulty in planning a course in most cases is that we do not realize the amount of talent we always have available in our own organizations. There is always a feeling that we cannot start a course until we find instructors to teach the class, whereas you do not need so much an instructor as you need someone who has had a little experience in doing organization work, and pulling things together, and in your own company, as a rule, you will find plenty of material, plenty of people as a rule, who have had some teaching experience. If they have not had much teaching experience, they will have the characteristics of teachers, patience and a faculty of imparting information, and if they possess these two faculties, combined with a full knowledge of the subject they are called upon to impart, they may very well make a success as practical instructors.

The thing to do is to look around and find someone among your own people, a foreman or some other person, who has had a little teaching experience, use that person, and in addition, lay out a little scheme of lectures; you do not need to start off in a very broad way, but get up twenty lectures or so, and select your own people to organize the talks, and to give the talks, and get something started. You never know just what you want—that is my experience—but if you make a start and say, "We are only to give one lecture a week for twenty weeks," and you get certain people together, you get the men together, and get the atmosphere, the nucleus forms, and your idea forms, and before you know it, you develop to what you want—it is the same old story—you never know, when you start a thing, where it will reach.

If I were fifty-one per cent certain I could make a success of a course, I would start. Why? Because you cannot see the other thirty per cent of help that is with you, but it is there, just the same. If you have the nerve to start with fifty-one per cent, you will make a success. If there is really a need to start something, take the material you have got, organize it, and get something started, and it is surprising how easily these things roll on when you once get them started.

The next subject treated in this report is "Foremen's Meetings." All through this report is this same idea of getting the foremen together and working through them.

The next item is "Inspection Trips." Take this meeting here today. I do not know how many different companies are represented, but I know our company has sent about six people here. The trouble is we do not send enough people out. The foremen never go out. They always stick to their jobs, because there is a feeling that if they go away from their immediate jobs, the production will fall, but if you will let these men go out and get a little of the spirit of the times, so that they will be firm believers and boosters in what you are doing, and what other companies are doing, it would be a splendid thing and it would be money well invested, and I would heartily recommend that you get the men to go out and visit other plants as the committee recommends in its report.

Then there is another point about the "Library." There are many companies which make no use of the libraries after they get them. They have a room fitted up with books, but who uses them? It is simply because they fail to get some systematic way of telling the employes about the library, explaining to them the advantage of the library, and getting them to form the habit of going to the library. We have so many of these things which we do not use, you might say we could dispense with them unless we use them more. The report says: "Three companies of the fifty-four report the systematic use of a library in the training of foremen."

The next topic dealt with in the report is entitled "Lectures (Occasional)." The report says: "These lectures may be given either by the company's officials or by outside persons." It is a good idea to bring in a little outside material, good men who are live men, because a man may be a very clever fellow, but after a while he gets stale in his company, everybody knows him and has heard him talk, but if he goes off to another company and shows some moving pictures and tells some good stories, and gives some interesting information on the topic of the evening, he brings interest, "pep" and enthusiasm into that company, and that is a good thing. There are a lot of good speakers available, but the great bulk of the work should be done by your own people.

Under the heading of "Training Courses Formally Organized," the report says that "Thirteen companies of the fifty-four have taken up the training of their foremen by more or less formally organized courses." There is a great deal of work to be done on that line. We have done very little about training men before transferring them from one department to another. During the war I was Chairman of the New England Section of the Committee on Industrial Training for War Emergency of the Council of National Defense. In addition to training executives, we were taking hundreds of thousands of women and giving them shop training, introducing them into the war industry. I am a great believer in giving short emergency shop training to new employes. It was remarkable to see what you could do in two or three weeks with raw material after you brought it in and trained them to perform routine tasks on all sorts of operations. You trained them and ran the efficiency of your output way up, relieving the foreman of the labor of breaking in new help. Why did it necessarily require a war to teach us the necessity of doing this? But there have been some wonderful things done along these lines. Now that the war is over, we ought to use the results of our experience during the war in industry in peace times.

Every industry should have a thoroughly organized educational system to handle all its factory work. They say, "Where can you get a room big enough to put all the machines in?" This is not necessary, as a few machines can be used to give general training; there are all kinds of ways of doing it. How long will it take for us to settle back into the old ways of haphazard training? With all the work that we have done on the subject of executive training, we have hardly scratched the surface, and surely we should not easily relinquish the little progress that we have made in the past.

I will read these things in conclusion, and my suggestion is, when I stop talking and sit down, that you get into this thing and discuss it and get acquainted with one another, and give your ideas on all of these various points.

Referring to page 83, Item 3, Mr. Ashe said: I question the judgment or the advisability of not maintaining an educational atmosphere. The easy way to overcome any feeling about going to school is to give the idea that you are holding a *post-graduate course.* I am a great believer in cooperative methods, and do not react favorably to this suggestion. My idea is to get the movements going as a sort of sympathetic cooperative graduate school.

Getting the foremen together stimulates consideration and courtesy. In a big organization, you know it will do wonders, if you can only get them all so that instead of hitting the other fellow at every opportunity, they will get in the attitude of helping him along a little bit, and if you can get in the attitude where, when you get one of those real impertinent letters, you throw it in the trash-basket, and then think about it the next day, and then send an acknowledgment. There is too much criticism and lack of courtesy in industry today. It worries the life out of people, and does not accomplish much. Our attitude should be to soften up these difficulties incident to our neighbors' work, rather than being ready always for increasing the irritation, a certain amount of which is inevitable in the conduct of the work.

On page 84, Item 5, under the title "Wage Plans," the report reads: "Although it is outside the province of this report to discuss methods of remuneration, it appears well to point out that the effectiveness of the foremen's training depends very much upon superior efforts being accomplished by a superior wage. Much can be accomplished by a bonus plan for foremen." I saw a suggested system gotten up by a company the other day in which different prizes were offered for ideas, and it stated specifically that no executives were entitled to the prizes. I thought that was weak, that is to say, that none of the department heads or executives were entitled to prizes. They could make all the suggestions they wanted to, but were not entitled to prizes. A way to do this, in my estimation, is to have it so that if a lot of ideas have come out of a department which has been built up as the result of some superior ability on the part of the foreman, that the foreman should get some recognition for his ability. That is open to question, of course, as that type of foreman might not want the prize anyway.

Under Item 6, "Attitude of the Management," the report reads: "The plans which are adopted should have the support of the management, particularly the cordial interest and guidance of the superintendent.

"This interest and guidance will make the foreman appreciate that there are big problems confronting the business toward whose solution everybody, high officials and foremen, have met together to contribute. A management which is open-minded and forward-looking will impress this fact upon the foremen constantly and thereby secure from them their best efforts." The way to get at this is to bring these fellows to conventions. The interest and guidance will make the foremen appreciate there are big problems confronting the business.

REPORT OF THE COMMITTEE ON EXECUTIVE TRAINING

The executive with whom the rank and file come closest into contact is the foreman. To them he embodies the corporation; he is the company's man; and the corporation's measures for the cultivation of good-will among the workers depend in large part upon his day-to-day interpretation of these measures in the shop. Educational directors and employment managers in increased numbers are coming to appreciate the value in their personnel work of having the foreman with them. Those in charge of production realize that their efforts also depend in larger measure upon this same executive who, close to the work, sees that it is gotten out. Thus, both in output and human relations, the foreman occupies a strategic position.

It has seemed to the Committee on Executive Training that in view of present needs this year's report should be devoted to foremen—how they are selected and trained, especially the latter. The Committee investigated at first hand the methods employed by a number of corporations in training their foremen, and addressed a letter of inquiry to others. Data from fifty-four member companies have been received. Our investigations have disclosed a considerable interest in the foreman.

In this discussion, a foreman is assumed to be one who supervises and directs the labor of a group of employes, all of whom are performing the same or closely allied duties. He may also direct and supervise the labor of clerks, timekeepers, etc., engaged solely in recording the activities of his group, and in the case of large groups he may be aided by one or more assistant foremen. The duties thus defined, people are found occupying positions in banks, stores, offices, and hotels which correspond to the job of foreman in a factory.

The Selection of the Foreman

The methods used in the selection of foremen are well indicated by these quotations:

"No fixed method is employed. We are always watching out for men with the necessary primary abilities for development into the finished product."

"The first step is to pick out a likely appearing man and make him assistant foreman under the personal direction of the foreman of the department. His training then consists in doing the actual executive work of the department under the supervision of the foreman until he becomes accustomed to handling men and materials. The training received in this way is not regarded as valuable from the standpoint of doing the actual work of the department, but rather to equip the man mentally so he could be put in charge of any other department which may be made of men of calibre similar to those with whom he is associated, and doing somewhat the same class of work."

"In selecting foremen, we make a very careful study of men in the crew, not always considering the best workmen, but taking into consideration if the man is quick to learn, loyal, capable of handling men, and resourceful. After deciding upon the man in the crew that measured up near as possible to the standard required, we work him in as assistant to the foreman, giving him a chance to show his executive ability at times such as when the foreman is on his vacation or off for a day or two on account of business or for other reasons. Our fifty-two executives, with but one exception, have come up from the ranks."

The foreman almost invariably is a workman who has come up from the ranks within the plant where now employed.

Under these circumstances, that of the foreman's being a home-grown product, it is interesting to note what several companies consider their chief source of supply:

"The policy we pursue in securing and training foremen and which we believe brings the best result, is to pick out such graduate apprentices as have shown special ability, giving each an opportunity to connect up with the particular line of work he seems best suited for, and after an additional reasonable length of time for special training, is placed in a position of minor responsibility, such as gang-boss, inspector, etc., from which he advanced to assistant foreman, and, as opportunity presents, is given the position of foreman."

"It was found that the graduates of our apprenticeship course were perfectly able to assume the responsibilities of foremen, and rather unintentionally we built up a corps from whom we could draw at any time."

"All our foremen have been and are now selected from the rank of men who were once our apprentices, but now graduate journeymen. This custom in the past has proven very satisfactory, and on the other hand it gives the apprentice boys an impetus to 'make good.' I dare say we now have at least twenty foremen who were once our apprentices, and so far as I know this plan for selecting respective foremen will be continued."

The apprenticeship system, while valuable as a source of supply, is not in itself sufficient, but for best results should be regarded as a foundation upon which the more definitely organized training for foremen can appropriately rest.

Methods of Training

Of the fifty-four member companies from whom data have been secured, twenty-four had no organized methods. These firms employ plans such as the following:

"In management, our foremen are trained by the superintendent during his daily walk through their departments."

"We view our foremen as the keystone in the organization, and are constantly training them as individuals, giving them personal attention, keeping them advised and informed of plant policy and preparation; checking them on our standards every three months. Our efforts are to give individual instruction to each foreman."

The reasons why methods such as these work out less well than they sound are familiar to all of us.

It is to be regarded as distinctly encouraging that, while less than one-half of the member companies from whom replies have been received are using no organized methods of dealing with their foreman problem, twelve of them either have the subject under their immediate consideration or express interest in working out a more satisfactory solution than their present methods.

Foremen's Meetings

Fourteen of the fifty-four companies hold foremen's meetings.

This method is proving distinctly useful, and good results are reported. Usually meetings are held outside of working hours, because foremen do not like to leave their shops in charge of an assistant in order to attend a meeting. Two companies report as follows:

"We have a foremen's meeting once a month, when we all gather in the apprentice boys' schoolroom in an informal manner, bring out a box of cigars and strive to make everybody feel at ease so as to bring out the best there is in them and put them in a receptive mood for suggestions made either by the management or the foremen themselves. We find the spirit of cooperation is being improved considerably by these meetings, as the men learn to know one another, and they are apt to take a suggestion or justified criticism in the spirit it is intended. After the meeting we go down and look over the work rejected by the Inspection Department during the past month, talk it over, and discuss means whereby these errors can be eliminated either by changing the manufacturing methods or the fundamental construction of the product. The moral effect of this is very good also, as the foremen are anxious to keep the scrap pile from their respective departments as small as possible."

"Our plan for organization called for foremen's meetings by divisions for the discussions of their particular problems at least every two weeks, and reports of the matters discussed and the corrections or improvements effected are submitted to the factory manager and placed on file. In addition to this, and at intervals of not more than six weeks, all division heads and foremen are called together for the purpose of announcing and explaining necessary detail changes in the company's policy, procedure, or manufacturing schedule, so far as this will be effectual. After the primary reason for calling the meeting is explained, the division heads take the floor and are given sufficient time to outline the part their respective department will take in the new movement. Following this, general suggestions are presented, such as employment problems by the employment supervisor, maintenance of schedule by the supervisor of orders, and such items of general interest as are not fully covered in the divisional meetings. Such matters as the conservation of labor, training of unskilled employes, adoption of female help, reconstruction problems, are taken up in this way with all of these men, and they are brought to see the matter from an executive standpoint. It also tends to enlist the cooperation of everyone in the organization in these general problems, and a thorough understanding of the subject results."

It may be well to suggest that the program should be carefully worked out in advance, because in order to make a success of the plan the foremen's interest must be aroused and maintained, which means that they must have the assistance of an experienced person in making good use of their time.

Inspection Trips

Two companies of the fifty-four send their foremen on inspection trips to outside plants.

In the making of inspection trips to outside plants it is advisable that more than one person should go, so that members can compare notes as they conduct their investigations. It is too much to expect a foreman, unskilled as an investigator, to map out all the details of his trip and to bring back the information desired. Hence it is well for an experienced person to arrange the schedule in advance that no time will be wasted, and that the foremen should know the salient points for which to look. This will also impress them with the fact that they are under responsibility to bring information back. Incidentally, their report will provide excellent material for discussion at a foremen's meeting. The investigators will have seen numerous points in which their own plant is not entirely satisfactory, as well as other points in which their progress is excellent, both of which will prove stimulating to them and other foremen.

Library

Three companies of the fifty-four report the systematic use of a library in the training of foremen.

The circulation of current technical magazines among the members of the supervisory force is quite common, and the provision of suitable books we feel confident has been more widely made than the above returns would indicate.

Lectures (Occasional)

Eight companies of the fifty-four call their foremen together occasionally to listen to a more or less formal lecture.

These lectures may be given either by the company's officials or by outside persons. The advantages of using a company lecturer are:

Responsibility as to subject-matter; foremen's contact with the personality of one who has been successful in the business; encouraging foremen to feel that the management is real and human rather than impersonal and machine-like; and no extra cost to the company.

The advantages in using an outside lecturer are:

As a rule, an outside lecturer can be secured who is a better and more interesting speaker; he is more widely informed, and he is usually a specialist in his topics. The shortcomings of the outside lecturer are his generalities rather than his concrete illustrations drawn from the foremen's experience in their own shop, and the cost to the company. The latter is the less serious, as a rule. The best results can be secured by a combination of inside instructors or leaders and outside men. The two can very nicely supplement each other.

Training Courses Formally Organized

Thirteen companies of the fifty-four have taken up the training of their foremen by more or less formally organized courses.

The following excerpts exemplify the attitudes of various corporations managers toward the systematic training of foremen.

"During the winter we have conducted an efficiency class numbering about sixty, and including our foremen and general foremen and heads of office departments, and those to whom such a course would especially appeal. The company has borne two-thirds of the expense of this course, and the men pay the balance. We feel that this course will stimulate the men to study their jobs, ask questions, and to strive to qualify themselves for higher positions."

"We have now about 530 foremen and assistant foremen, besides 244 job-setters. The plan in effect is to provide an intensive three weeks' course of instruction for the foremen and assistants, each class consisting of forty men. The subjects discussed are:

Discipline
Premium-system
Inspection and Scrap
Tools
Time-Study
Factory Routine and Methods
What Is an Executive?
Store System
Production Methods and Records
Machinery—Use and Upkeep
Employment — Promotions — Labor Turnover
Time Keeping
Safety and Sanitation

Each subject is presented by the highest available authority among the executives. It has been found that an official can secure the interest and cooperation of his audience to an extent that no instructor, however gifted, can. Each lecture is followed by a general discussion and questions. At the close of the course there is a written examination, the papers are graded, and the results classified for the information of the General Superintendent and Division Superintendents. A similar procedure is followed with the job-setters, who are eligible for promotion to foremen's positions, etc. The work is necessarily somewhat experimental, and will be developed or modified as experience accumulates. In general, we have directed our efforts to the paramount need of maintaining a body of competent and loyal foremen, not only to safeguard quality and production, but as the foundation of the morale of our entire organization."

The development of these training courses has naturally varied with the character of the industry and the firm's educational program in general. In some cases the foremens' course is an extension or post-graduate feature of the general apprenticeship course.

In other cases foremen are employed and given a short course of intensive training as a part of their induction into the service, and in still others the courses are designed to give the older foremen a chance to broaden out and increase their efficiency. There is a general disposition to include in the course:

Technical Nature of the Business
Production Methods
Costs
Handling of Employes
History, Aims, and Policies of the Company

The sessions are preferably to be in the nature of round-table discussions, under the guidance of a well-qualified leader. This leader himself will do much to insure continued interest, but there is need in addition of the management's recognition of the practical import of such training on the part of their foremen. If the management takes an intelligent interest in these classes, if it grades the men and bases their promotion, in part, upon the qualities shown in the classes, and therefore "sweetens" the pay envelope in accordance with the proficiency, there will be no difficulty in securing the closest interest and cooperation on the part of the foremen in the organization and conduct of such classes. As a practical measure, it seems wise that the management bear one-half of the expense of all such class burden, and refund the half of which the men pay if the course is satisfactorily completed while the employe is still with the company.

A considerable number of corporations, several private educational institutions, and the United States Training Department are working upon this problem, and better organized courses for foremen are assured.

Public or Semi-Public Educational Institutions

Seven of the fifty-four companies affiliate themselves with outside educational institutions.

The experience of these companies is indicated by the following citations:

"We have a standing offer to all our employes to the effect that we will pay half the cost of their tuition in any recognized school, provided the course of study proposed seems to be one which will help them directly or indirectly in their work. Not much advantage has been taken of this by foremen and prospective foremen, most of the studying being done by members of the office force."

"We are cooperating with the extension department of the State University in courses in elementary and advanced arithmetic, English and the technology of our business to all satisfactory employes who desire to avail themselves of any of these courses. Instruction is given one evening each week. We have recently started this class work and hope to develop a number of eligibles for the position of foreman."

"We are paying the tuition for forty-five foremen taking the modern production methods course at the Y. M. C. A., four men taking business English and one the foreign trade course. This is the first and only effort we have made to train our foremen."

"We feel that this work of training our foremen has made them more familiar with what we are trying to get at in the way of improving our methods throughout the plant. Those of us who are connected with the special fields of work find that the foremen are acquainted and understand our language a great deal better than heretofore, and are more sympathetic in their dealing with us."

Concluding Observations

The foreman who has been promoted from the rank without training can scarcly be expected to swing successfully the various tasks devolving upon him. Under the usual conditions he is the final production official to whom various specialists in the organization submit their orders and from whom they expect results. Foremen cannot possess without training the specialized and technical knowledge required of them. Moreover, with respect to human relations, the foreman has by the very fact of advancement to his present position shown qualities which mark him as a "company man" not alone to the superior who appointed him, but also to his former co-workers. Once the "boss" of men formerly his equals, he is very apt to display a lack of sympathy, intolerance and suspicion which seriously handicap his own efforts to make good and the company's efforts to cultivate employe good-will. The foreman untrained is, in short, likely not to be big enough for his job.

There are two possible solutions in this situation: One to make the job smaller and one to make the man larger.

The first solution has been recently worked out by one of our member companies in this way: "We have tried several schemes to train our foremen, the last proving unsuccessful since the men devoted one evening per week and seemed to receive no adequate return. On noting this condition we deemed it advisable to establish a planning department which now takes all orders in, properly planning them before being released to the shop. This takes away quite a little of the work previously required of our foremen, our foremen simply following out the plans as given them by the above department. This makes it unnecessary for us to hire engineers, machinists, toolmakers, etc., as foremen, and means that we must have a man who will be capable of carrying out the instructions received."

Under scientific management, of course, this process can be carried out so far that foremen, so little do they do, require no elaborate training period.

While specialization has reduced somewhat the complex and almost impossible task carried by the old time foreman, there still appears sound reasons why the second plan should be pushed, thereby making the foreman a larger man. This distinctly is the attitude of the member companies with whom we have taken up the problem of training foremen; they have considered him the king pin of the organization and a man whose cooperation and skilful effort it is essential to secure.

There are certain suggestions which the committee offers in conclusion:

1. *Specific Material.*

"The chief criticism we find against this course of ours and against all others of which we have heard," says an educational director, "is that they tend to be too general rather than abounding with specific instructions for improving foremen on their jobs."

The foreman's vision is too narrow and the day's problems too pressing to render him much interested in generalities. He should receive definite help, plus the encouragment which comes from the recognition by others of his problems and effort.

2. *Handling of Men.*

The importance of the foreman in any attempt to cultivate employe good-will has been cited above; and most educational directors and employment managers are realizing more and more the importance of securing proper foreman cooperation in this respect.

3. *Non-Academic Atmosphere.*

"We have no school that the foremen recognize as such," says a manager, "but we do have meetings at irregular intervals when the foremen and the department heads are brought together, and at those times it is our aim to give them something worth while to think about, but we avoid anything which would make this appear like a school room."

The foremen are usually neither of the age or temperament to enjoy the prospects of being schooled.

4. *Team-work.*

The problems of a large business are complex enough when all members of the organization pull together, and foremen who keep step increase decidedly the company's effectiveness. Incidentally, the value of certain of the forgoing methods of trading in securing team work has been well demonstrated.

5. *Wage Plans.*

Although it is outside the province of this report to discuss methods of remuneration it appears well to point out that the effectiveness of the foremen's training depends very much upon superior efforts being accompanied by a superior wage. Much can be accomplished by a bonus plan for foreman.

6. *Attitude of the Management.*

The plans which are adopted should have the support of the management, particularly the cordial interest and guidance of the superintendent.

This interest and guidance will make the foremen appreciate that there are big problems confronting the business toward whose solution everybody, high officials and foremen, have met together to contribute. A management which is open-minded and forward-looking will impress this fact upon the foremen constantly and thereby secure from them their best efforts.

President Rowe: I think Mr. Ashe very admirably opened this question. It is a wonderful subject, full of interest. How many who are executives are in attendance here?

Mr. Ashe: We are all executives—we are all foremen.

A Member: What constitutes an executive?

Mr. Harry A. Hopf (Federal Reserve Bank of New York): May I offer a definition, Mr. President, of a foreman? He is one who is responsible for the efforts of others, if it is only one effort.

President Rowe: You have offered a very good definition, Mr. Hopf; will you go on and tell us something about that conception of yours? In your business you are familiar with these matters and handle them every day. We should be glad to have some of your views.

Mr. C. K. Tripp (General Electric Company): I recently made an investigation at the Lowell Institute concerning their method of training for industrial foremen with the ideà of adopting some of their methods of instruction at our Works.

I found that no attention is given to the personality of the candidate as to their adaptability for executive work. From my observation, the average executive is selected more for his physique than for his mentality.

Mr. Milton D. Gehris (John B. Stetson Company): The John B. Stetson Company have tried an experiment with their foremen and assistant foremen that has worked out fairly successful. Our foremen are all men who have been advanced from the ranks. We do not believe in bringing in men from the outside and after a short course of training make them executives. Of course, like all other concerns, we sometimes pick the wrong man and when we have picked the wrong man, hesitate to make a change.

We learned the early part of last year that the Business Training Corporation, with headquarters in New York City, had established a branch in Philadelphia in connection with the Y. M. C. A. work and we arranged to send twenty-five of our younger foremen to take this course.

Unfortunately, the course mapped out for them did not have the support of the teaching staff which was necessary to make it an absolute success. They changed lecturers so frequently that there was no continuity in the course and the men lost interest. Some of them got a good deal out of it even with all these drawbacks, but what impressed us the most was the fact that the foremen who seemed to be the most experienced in our work got the least out of the course, and we can only account for this in one way. They must have assumed that they knew all there was to be learned and did not apply themselves to the course as they might otherwise have done.

We tried a second lot of twenty more of our assistant foremen, and received a report of this last lot only a few weeks ago. We were more than pleased with the result.

The lecture course for this second lot was a little better, as there was not as much change in the teachers and most of the rating of the men showed an average of from 85% to 95%. I think there were six who passed with an average of over 95%, which we consider very good.

The result of the course has been quite noticeable in a number of cases. We have a young man who has been at the head of one of our departments for some time. He is not very mild tempered and, having a great deal to do with another department which supplies the materials needed in his department, he frequently got very impatient and there was a great deal of friction between him and the men of the other department. Since taking this course they tell me that he is entirely different in his attitude toward these men. He is more considerate, more patient and more ready to cooperate with them if they have difficulties in supplying the material for his needs. This young man made a failure as far as the course is concerned, but it evidently taught him the lesson of cooperation which he needed.

Some of the more aggressive of our foremen have formed an organization to which executives of other plants belong, and they meet twice a month at the Y. M. C. A. to discuss problems relating to management.

Early in January our President appointed a Committee on Management. This Committee consists of our superintendents and the heads of our largest departments. We have weekly meetings and at these meetings all phases of our management problems are discussed. This arrangement has brought together the superintendents and foremen of our large departments and all share in making plans and rules for the conduct of the business, and it is to their interest as well as the interest of the business for them to see these plans worked out.

Heretofore we had no superintendent of our mechanical departments. Each department worked independent of the other and often there was friction when repairs required the combined operations of several mechanical departments. If things did not progress as they should they would blame the trouble or delay on each other. This was the cause for constant irritation and the departments were not operating in harmony. Since the appointment of a Mechanical Engineer, who is also a member of the Management Committee, this difficulty has been eliminated and the foremen know that they have but one man to look to who is responsible for all repair jobs.

PRESIDENT ROWE: You say that you have your superintendents and principal foremen meet. Do you think it might be practical to bring in all your foremen who really have charge of a division of the work or a particular set of men?

MR. GEHRIS: We also have a meeting of foremen. We have an executive association, which is composed of foremen, assistant foremen and examiners. This assocaition meets once a month. At this meeting the Employment Manager makes his monthly report of the number of employes hired and the number who left, giving the reasons why employes have left and reports the labor turnover for the period. Occasionally his report is followed by a discussion on the reasons for the shifting of labor and the needs of the departments are made known.

The Welfare Worker and Visitor makes her report and a discussion of Welfare needs follows.

Reports as to sanitary conditions are made by the departments and recommendations for the betterment of conditions in general are invited.

A Safety Committee, representing all departments, is constantly at work inspecting and they make reports of their findings.

PRESIDENT ROWE: In other words, you are slowly establishing closer partnership relations between the executives and the financial end of the business and the operative end of the business?

MR. HENRY G. REIST (General Electric Company): I ask the speaker whether he can tell us something about the character of the lectures given to the men outside, the training they got.

Mr. Gehris: The lectures for the course in Modern Production Methods were lectures on management, but the men were given practical problems to work out for which they were given a certain rating; for instance, they would have to rate a number of foremen having different qualifications, different dispositions, and were required to pick out those who would make the best foremen.

Unfortunately the lectures were all along machine shop lines, while our men could only think of the problems of a hat manufacturing establishment. We have come to the conclusion that we have not paid enough attention to the selection of men as foremen and assistant foremen. A man may be very able as a foreman but so deficient in education that it is hampering him continuously. It is, therefore, necessary to understand the mental as well as the physical qualifications of a man to become a good foreman. It is our aim to put at the disposal of our foremen and assistants every help that we can possibly give them to furnish the necessary qualifications to make them as near 100% efficient as it is possible to be and yet be human.

President Rowe: This is most interesting information which Mr. Gehris has given us, and we should be glad to have more discussion along this line.

Mr. Charles J. Lyons (Burroughs Adding Machine Company): In view of the fact that the Burroughs Adding Machine Company has recently increased the number of its foremen and executives almost one hundred per cent, I think it may be interesting to this body to know how we proceeded. We had been working under enormous pressure during the period of the war. Three or four nights a week all of our hands worked overtime. The excessive number of hours was beginning to tell on everybody concerned, as Mr. Ashe brought out, and as the result of that, a form of entertainment was devised.

The foremen and division heads were called together into our restaurant, where a good meal was served, music was furnished, and then efficiency men, personal development men, and management men were called in to address them. After that, the problems of the department or the concern as a whole were discussed. In this way we gradually stimulated in a "painless manner," I might say, a spirit of progress in our executives. They were gradually developed through this training, and the results were quite noticeable. We have a man representing the factory manager, who acts as a liaison officer; it is his duty to go about the factory every day, and following these meetings he would discuss the subjects brought out, with everybody he came in contact with, who had been in attendance at the meeting, and if these persons had not formed the right idea or properly digested the subjects, he would give them explicit information on such details as were not clearly understood. The men readily grasped all that he had to give them, and all that these various experts had presented in their talks, and asked for more. He also served to a great extent to gather up subjects that were pertinent and interesting for presentation to the men at these meetings.

Our foremen are all the products of our own factory. Our first step is to put them in the position of bench foremen, of which there are from four to ten such men in each department, and we can readily determine, when they are occupying these positions, what training they require for the higher grade of foremen. When they get to the rank of foremen, they come under the scope of the work I have outlined, which is rapidly developing along regular lines, this being simply the outgrowth of the necessity for devising a method to relieve the tedium of considerable overtime, but we have done it with results that have been astounding to us.

PRESIDENT ROWE: May I inquire for the benefit of others here, as well as myself, whether you keep any score or record of the relative value of the work of the men from the start, or is it simply a matter of selection, depending on the judgment of the management?

MR. LYONS: A combination of both.

PRESIDENT ROWE: A man who does not work on his job receives a demerit?

MR. LYONS: Not in set figures; his record is kept and he is judged by that. We bring to the attention of the foreman, from our Cost Accounting Department weekly, such figures as he is responsible for. He has that as a standing guide of his efficiency or non-efficiency.

PRESIDENT ROWE: That is, you refer back to the records in placing him relatively with the other foremen?

MR. LYONS: Yes.

Mr. C. P. Davey (The National Cash Register Company): Will Mr. Lyons be good enough to tell us about the efficiency courses he used?

Mr. Lyons: As I said, this thing is the development of an effort to relieve the tedium of the overtime; it does not follow regular lines and has been brought about by the express wishes of the men to learn certain things. One of the first things they wanted to see was the labor turnover. We were confronted, as every other manufacturing concern was, with a very considerable amount of turnover. Less than one per cent of our employes are foreign born, our shop as a whole is an American shop, and consequently the draft made disastrous inroads on our force.

We established a vestibule training school to train women to replace the men who left the employ of the company during the war emergency. The men who were left saw promotion ahead of them and they would ask, "What had I better devote my attention to?" and that brought forth, as I say, the question of the nonproductive labor cost. We summarized these and presented them to the men, and helped them to realize the meaning of these figurs. We gave them comparisons with other departments doing similar work. In addition, the employment manager gave them the turnover figures. They were guided by them. and the attendance record of their employes was presented to them. Their output, of course, is given to them by the production man.

President Rowe: That was a practical demonstration of vocational guidance that we hear so much about.

Mr. Davey: I am interested in the basic fundamentals of a system to create foremen and job foremen in the various departments. In the National Cash Register Company we have an arrangement, probably the same as many of the other companies, but we regulate it a little differently. We have five or six job foremen work with one foreman, or perhaps more than that. The Burroughs Adding Machine Company some time ago very kindly turned over to us some efficiency cards, that is, questions and answers covering different systems used in the shop method for carrying out the piecework system, with a question and a blank space directly below in which the foreman wrote his answers. After these questions had been passed on to the foremen and job foremen of the various departments, there was a time limit on them so that they had to be turned into the office, where the papers would be marked in fifteen days, or else a certain percentage would be taken off. After the answers were written out and sent in, they sent out an additional sheet, and this sheet carried the questions first and the answers below the questions.

We had considerable success with that method, and that was taken from the Burroughs Adding Machine Company, and that is what I wanted to say to you particularly. I do not want to speak about it myself, as the scheme originated with the Burroughs Adding Machine Company.

PRESIDENT ROWE: I raised the question myself because in many establishments you can go in and ask for the record of any employe in the establishment, and they will turn to a card index and pull out a card and show you all about him, his compensation, business standing, ability, loyalty, and everything else that pertains to the man. How many here carry out such a system of records of individuals? I mean individual workmen as well as foremen? (A number of the members raised their hands.)

It has come to my notice that recently the men themselves inquire the reason why they are not being advanced in their particular department, or in the establishment in which they are employed when someone next to them is advanced. Therefore, this matter of keeping an individual record of the work of each man became a necessity in some establishments. By turning to these records, they can show just why one man is selected for a particular advancement and another one is not.

MR. ASHE: I ask where these records are kept and of how much real value they are—I think almost everyone keeps records more or less. At one time we worked out a scheme that was used for following commercial men after we had trained them—we had curves plotted to show what the man's increase of sales were from year to year—we had these curves plotted so that his increase in sales could easily be followed, but the plan was discontinued. I was wondering where these records are kept, how sure you are of the data, and how much real reliance you can place on these records as a measure of the work of these men.

MR. LYONS: To answer that question, and to enlighten the gentlement from The National Cash Register Company, I will say that when I went into this work I used a questionaire, such as he outlined. We all know that the human mind requires change. The men did their best to answer the questions, and where they deviated from the particular branch of the work they were engaged in, they lost interest, and I feel I am doing bigger things in getting them out of the routine of their department, and making them think along executive lines. I know I am doing that, because the men evidence an interest in the subjects presented and are anxious to pursue a study of our product, or their particular branch of it. We started rating the men, and various things would arise, circumstances here or circumstances there, that would throw the figures out of kilter, and we discarded it.

President Rowe: In other words, you discontinued that method?

Mr. Lyons: Yes.

W. N. Skiff (National Lamp Works, General Electric Company): Mr. Ashe, in presenting the paper, spoke of the advisability of selecting executives from the rank and file. The idea is admirable. I think that the majority of the men here agree with that. But the one thing that we are all confronted with is how to select the right man. In the organization with which I am connected, the National Lamp Works, of the General Electric Company, where we have a large percentage of technical college graduates, we have worked out a scheme that seems to us to have been satisfactory, as it has turned out a number of executives during the past five or ten years.

You and I, and all of us, like to feel that we are responsible for some particular thing, or some particular part of the work we are engaged in. If we can impress the employes with a feeling of responsibility to such an extent that we can try them out on one job or another, to find out their good points and their weak points, we gain something. Therefore, in our organization, we take particular pains to impress upon our men their responsibility for trying out this man and that man, and finding out what he is best fitted for.

The keynote of the whole situation with us is this—we believe that you can hold anyone responsible for only three things, and that these three things must be in the sequence of their importance, and usually the three things come in this order—the first, the quality of work turned out. Second, the speed of delivery of that work; and third, the cost of that work.

Now, if the individual has done the very best he knows how, in the shortest possible space of time, at the least possible cost, he has put into that particular job 100 per cent of his ability. Now, the probability is, that the next time he does that particular work again, he can do it better, and more quickly, and can do it more cheaply, and it gives us a chance to grade the man up from the standpoint of how good work he can do, how fast he can do it, and how cheap he can do it. If you can get a man or a woman, and we have found the plan works out satisfactorily in the case of women also—to come within the limits you expect him to work within, on quality, production and cost, and then leave up to the individual the responsibility of working the thing out within those three limits, you know absolutely where you stand and he knows where he stands all the time. Quite frequently we will turn a job over to a man, and after he has been working on it for a time, he will come back and say—"I have been estimating the cost of this thing, can't you give me sufficient funds to carry this on?" We will talk it over with him, and he will find that perhaps it may be that we have cut him him rather short in the cost end, and therefore we will give him a little more rope on it, and let him go ahead with it. If a man is working within certain limits, and feels that he can adopt any scheme he wants to, we feel it is one of the best methods to allow that man to develop his own initiative and executive ability, so that we can find out what the individual is adapted to.

Mr. Carl S. Coler (Westinghouse Electric and Manufacturing Company): I should like to mention in this connection the value of outside activities, as regards both the selection and training of executives. We have been running some experiments along this line in the Casino Technical Night School. After checking up results, we find a large percentage of our night school graduates get into executive positions ultimately. We have organized several kinds of outside activities, allowing the men to select their own leaders for these activities. We then watch the performance of these men who have been selected by their companions as they carry out the jobs that they have been selected for. This not only puts responsibilities up to the individuals, but it helps us to check up on their performances, and note the results they are able to get on these different outside lines. It usually follows that the man who has proven his executive ability in these outside activities, will make good on executive work.

Mr. P. E. Wakefield: Mr. Coler's remarks are endorsed by a number of men who are prominent in training work in the Pittsburgh district, as his remarks pertained to the methods employed in choosing exceptional men, that is, the men who lead the activities of their fellows.

But what I am particularly interested in, is not so much the problem of selecting the exceptional man, who will almost invariably select himself and determine his own standing in an organization, as the problem of rating the average man, the rank and file of the workingmen themselves. It is almost always the case, where we have any given group of men, that the greater number will be classed in the middle third, as we sometimes call it. In other words, the majority out of a hundred men will be of average caliber. A part of the balance will be above the average, and the remaining part will be below the average.

In any organization—and I address this question particularly to the representative of the Burroughs Adding Machine Company, who said his company abandoned its system of rating men on cards—why is it not possible to have this system of rating the individuals of the organization? What things made it necessary or advisable for that company to abandon that system—of putting down in black and white, according to some systematized method, the rating of the working ability of each of their men and the actual work performed?

In training apprentices, I have found it very successful to do this. We have determined what qualifications these apprentices should have. Our object is to train highly skilled, all-'round mechanical workmen. Such workmen should have certain qualifications and characteristics. From the time the apprentices begin their training until they finish it, an accurate record or rating is kept of each apprentice as regards each of these characteristics. Such records are kept covering both the class room and shop work of the apprentices, and the result is that, when an apprentice comes to me and says, "How does it come that I am not being advanced as fast as this other fellow," I am in position to show him in black and white the record that he himself has made; and, inasmuch as the apprentice's advancement is governed by this record, he has no basis for any claim that he is being treated unfairly. There is only one weak point in this system. The human element enters in. The man who does the rating may make mistakes; and the only flaw on which the workman can lay his finger is the possibility that he may not get a fair rating, but this human element enters into every system for handling men and comparing them, and I would be interested to learn why the Burroughs Adding Machine Company found it advisable to abandon their system. The application of this method of rating to apprentice training is not an original idea with me. I got an idea of the advantages of this system from the Westinghouse Electric & Manufacturing Company, and I understand that they have used it for a number of years in connection with their apprentice training work.

PRESIDENT ROWE: I understand this rating method is extensively used in the Carnegie Steel Company, is it not?

MR. WAKEFIELD: It is in some departments.

MR. LYONS: I shall endeavor to confine myself to the topic, namely, the Report of the Committee on Executive Training. In our organization, the Burroughs Adding Machine Company, we have quite a number of training courses, salesmanship, apprentice courses, etc. Given permission to do so, I would be glad to go into the matter this gentleman has brought up. We do keep an accurate record of the individual apprentices and their performances, and that is determined by the Apprentice Supervisor and the foremen of the different departments in which the apprentices are working at the time. They usually spend three-month periods in the various departments. What I was dealing with in my previous remarks was the development of the foreman and the sustaining of the interest of the foreman in that development, under the strain of increased production during the war period.

PRESIDENT ROWE: The Chair recognizes a slight departure from the topic itself on the part of Mr. Wakefield, but we have to begin somewhere to train these people, and the lower down we begin to train them, the better it is for them and the better for the company when we get them up to this particular point that we are considering.

MR. WAKEFIELD: I agree with you it is a departure from the subject.

MR. HOPF: If I step into an automobile and start the motor and throw in the clutch and drive off and suddenly realize the car is creaking along and something is wrong with it, and then discover that the emergency brake is on, that is no reason for criticising the automobile. It is my own fault.

So, if I have any difficulty with progress records, in rating individuals, I might presume to inquire whether the fault is not with myself rather than with the progress record as a system. I admit it is difficult to give numerical expression to the effectiveness of an individual, but I believe it can be done and has been successfully done, and with your permission I should like to defer further remarks on that subject until the time when it is my privilege to present the report of the Committee on Job Analysis.

May I ask your indulgence for a few remarks on the report we are discussing this morning? I think fundamentally the problem is one of our organization. I think one of the great difficulties in this country, before the war, was to get people to think in terms of organization. The necessity was forced upon us by the calamity through which we have successfully passed in the last two years, and it has taught us what organization means, and it has also taught us something infinitely greater, that is, the superiority of personnel, and we do not have to call particular attention to the destruction of the German organization to know what it means to know personnel.

In going through this report, I have found some rather significant phrases I should like to comment on. On page 79 there is a reference as follows: "As a rule, an outside lecturer can be secured who is a better and more interesting speaker, he is more widely informed, and he is usually a specialist in his topics. The shortcomings of the outside lecturer are his generalities rather than his concrete illustrations drawn from the foremen's experience in their own shop, and the cost of the company. The latter is the less serious, as a rule. The best results can be secured by a combination of inside instructors or leaders and outside men. The two can very nicely supplement each other."

I think this statement is correct, and I think wherever it is possible, it would be better to have the training conducted from within and supplemented here and there by lecturers from the outside who are specialists. I used to have occasion to pass upon the question of the desirability of engaging an outside specialist for the institution which I have the honor to represent today, the Federal Reserve Bank of New York. My report was to the effect that I thought his influence, while good, would be ephemeral, because at the present time there is no organized means of instruction in existence which would supplement the themes summarized by him in the course of ten lectures. I know by past experience that the residuum would create a condition which would be but a slight, a very slight, improvement over that which existed before, and which would not be of any practical value.

I feel very strongly that all educational effort should be guided from within, under organized plan, which will enlist the active cooperation and support of the executives, and that brings me to another point, and you touched on it briefly, in your presidential address last evening, Mr. President.

Our situation here in this group this morning represents, in a sense, a dilemma. We are discussing this proposition, and I think, as a whole, we have in our respective institutions hardly the authority to put our conclusions into practice. Therefore, I always regret that we cannot bring out more executives who could be brought here and influenced to reach conclusions and put them into action. I think it is far more important to enlist the cooperation and support of the executives than it is to obtain a general consensus of opinion favorable to the organization of an educational plan within the institution.

On page 81 there is a statement which bears out what I have just said. It is as follows:

"The sessions are preferably to be in the nature of round-table discussions, under the guidance of a well-qualified leader. This leader himself will do much to insure continued interest, but there is need in addition of the management's recognition of the practical import of such training on the part of their foremen. If the management takes an intelligent interest in these classes, if it grades the men and bases their promotion, in part, upon the qualities shown in the classes, and therefore "sweetens" the pay envelope in accordance with the proficiency, there will be no difficulty in securing the closest interest and cooperation on the part of the foremen in the organization and conduct of such classes."

Here is a picture of the average executive, who is usually a man who is inundated with routine. He finds today he cannot stand aside any longer and question the value of educational work for employes. I am speaking of the general average. There are many wonderful exceptions. Now, he is usually so busy that, while he is willing to have educational work undertaken, he is not quite so willing to take an active part in it himself, and therefore he O. K.'s the plan and delegates it to somebody else to execute, and then goes on to looking over his papers on his desk, which constitutes a large part of his daily routine.

If we can get the executive head of the actual work to be present at the meetings and state the organization's attitude with respect to every matter of policy coming up, and give an instant decision, if such a thing is possible, then we have the work tied up in the most effective manner with the executives of the corporation, and we have an additional element of value, we have the ambition of the employe actively motivated, because it is his desire to win the favor of the executive, and he will exert himself when he knows he is under direct executive observation.

Another point in the paper is expressed as follows: "As a practical measure, it seems wise that the management bear one-half of the expense of all such class burden, and refund the half of which the men pay if the course is satisfactorily completed while the employe is still with the company." In my judgment it is a mistake for an institution to organize a course, or obtain outside material, and then agree to pay for the entire course in advance. Immediately a condition ensues of semi-lethargy. The employes do not value what they receive for nothing or nearly so much as that for which they must part with something of value, and I think the far better plan is that indicated by the committee even though the organization agrees to refund half of the amount paid by the individual upon the successful completion of the course.

In the Federal Reserve Bank of New York we have just organized two large groups devoted to the study of business ethics and the training of executives. Every single executive of that institution, with the exception of the Governor and Senior Deputy Governor, is enrolled. Of course, the courses are being conducted with special reference to our own problems, and we are trying to work out in the bank effectively the idea of giving thorough study and attention to the troublesome subject of company correspondence. We feel that is a good entering wedge for general educational work because there is an opportunity for improving the quality of the correspondence emanating from the institution, and I daresay from most other institutions. The work we are to undertake is practically the principles outlined in a series of texts published by an institution in New York, and in three months' time, as I happen to know, given to a study of this course, there is a change that takes place in the attitude of the individual with regard to the correspondence of the institution which he represents.

I think the great necessity is to rescue our instruction work from the academic field. I think it is a mistake to indulge in general principles. I think it is a crime, on the other hand, to give individuals an objective viewpoint with respect to their work and not teach them the tremendous importance of being able to get on with others in the institution, because, after all, it is a relation which the individuals bear, one to another, that counts for more than anything else in the institution.

One of the indictments I have to level against educational institutions is the fact that they will teach students to become dissatisfied with operating conditions, they will teach them a specific knowledge of subjects which will make them indulge in creative endeavor, and fail to teach them the vastly more important things of how to sell their knowledge to the people they have to deal with. While progress is achieved by the resistance to the existing order of things, nevertheless it is necessary that the equilibrium of things should not be too suddenly disturbed, and the man at the top is influenced more by trying to preserve the balance of power than by trying to introduce new elements, no matter how praiseworthy they may be.

PRESIDENT ROWE: Now, Mr. Wakefield, we shall be glad to hear from you again.

MR. WAKEFIELD: I do not know whether the meeting wants me to go back to that point or not, Mr. President. I am responsible for the training of about seventy-five apprentices. In handling these apprentices and their instructors, I have found that written ratings of these instructors and apprentices have helped me to act intelligently and justly. Furthermore, I quite often make known the connection between my actions and the ratings on which these actions are based. I know that it is not always good poker to lay your hand on the table; but, within the last few years, a great many executives have begun to play their game in this way. I mean that, when they promote or discharge a man, they state very frankly their reasons for doing so. I do not think it is anything more than fair to the employe that the reason for the actions of his employer should be stated frankly wherever it is possible or advisable to do so.

There are some men who object to keeping written ratings of their subordinates. They question the necessity of keeping these records. Their argument is that they are well acquainted with the men who are working under them, and that whenever an occasion arises for promoting one of these subordinates they are never at a loss to decide which one should be promoted. It is true that any successful executive must have a thorough and accurate knowledge of the men whose work he directs, and it is not absolutely necessary to record this knowledge in writing, but I believe that—where this knowledge is recorded in the form of ratings made systematically and in accordance with some predetermined method—it will greatly help the executive to avoid snap judgment and mistakes in handling his men.

MR. ASHE: The reason I asked the point, as to value of records, is the fact that while I am a great believer in records, and believe in a system which gives you the advantage of analyzing the performances of the men in the company, oftentimes you will find a man who will not seem to fit in a certain place, his record is not good, but you feel he has a certain amount of ability, the records you get on that man from the people around him would indicate he is mediocre.

You may let that man go or shift him to some other place, and after you have tried that man in two or three different places, all of a sudden you may see some sort of a spark, you have a feeling there is some virtue in the man after all, if you can only find out what it is, because, as a rule, you find out in shifting a man from place to place, there is some particular thing he can do better than another man, and a system of records, as a rule, does not indicate that, and if you can discover what particular line of work this man is adapted to, you can tie him up to that and let him develop along those lines.

That is the reason I argue that point, because, as a rule, you may try a man in three or four different places before you will fit him in the right place, where he can develop into a successful individual, and as a rule records do not show that. Sometimes it takes quite a long while to get the right line on an individual, but by shifting him around from place to place the chances are you will find something to which he is more especially adapted than in some other line.

That has been shown to considerable extent in investigating relief cases, where, for a long while, you have got a wrong line on the situation, and when you will make an investigation and talk to some physician or someone else, he will give you an entirely different viewpoint of the situation, and when you chase the thing down you realize you have been on the wrong track and have not got the proper perspective of the situation—ordinarily the records, as a rule, do not show all the facts. However, I am a believer in keeping records providing you do not rely upon them too much and use judgment in weighing the facts.

MR. C. E. SHAW (Dennison Manufacturing Company): I think this subject is one of particular importance today. The question of rating of minor executives, of foremen particularly, is of such importance that it may be well to refer the matter to a committee, possibly this same committee, for further study during the coming year. In every organization we are constantly passing judgment on men whom we have to promote to foremanships and even higher positions. There is great need to find an accurate and just plan for checking and aiding our judgments. We are going into the subject most extensively in the Dennison Manufacturing Company during the coming year.

I should like to suggest that the Executive Committee consider this question carefully and see if it would not be worth while to go into this pretty thoroughly, and have the committee present at the next annual convention a report which will satisfactorily solve the problem of foremen ratings or executive ratings.

PRESIDENT ROWE: Your recommendation is entirely proper and has been recorded by the reporter and will appear in the minutes, and no doubt will have attention from the incoming Executive Committee.

There was one point referred to by Mr. Hopf that has been apparent at every one of our meetings. I think Mr. Ashe and Mr. Banks and many others have spoken of it over and over again, and the Executive Committee has discussed it. You are here representing the people who do the things in the educational work that is being carried on, and we ought to have present at this convention more of the men who are behind you—we ought to have more men here like Mr. Gehris, of the John B. Stetson Company, who is himself the treasurer of that company. He is here today because, he told me on the train coming, that he wanted to get our angles and our views.

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COMMITTEE ON TECHNICAL TRAINING

Mr. A. B. BENEDICT, *Chairman*
GOODMAN MANUFACTURING COMPANY
Chicago, Ill.

Mr. E. G. GRANDSTAFF
THE NEW YORK EDISON COMPANY
New York, N. Y.

Mr. WILLIAM M. SKIFF
NATIONAL LAMP WORKS
GENERAL ELECTRIC COMPANY
Nela Park, Cleveland, Ohio

Mr. R. L. SACKETT
PENNSYLVANIA STATE COLLEGE
State College, Pennsylvania

TUESDAY—MORNING SESSION

TECHNICAL TRAINING

TUESDAY MORNING.

PRESIDENT ROWE, *Presiding.*

PRESIDENT ROWE: Now, our next business is the Report of Committee on Technical Training.

I take great pleasure in introducing Mr. A. B. Benedict, Chairman of the Committee on Technical Training.

MR. A. B. BENEDICT (The Goodman Manufacturing Company): Gentlemen—It is to be presumed that everyone present has either read the report of the Committee on Technical Training, or else has familiarized himself with the outlines thereof. In order to start the discussion I will read the synopsis so that we can refresh our minds as to the contents of the report.

Mr. Benedict then outlined the synopsis of the report, and in connection with item 3 said: There were three principal methods used, first, through professors. This has received the approval of most of the schools and is used in conjunction with another method that will be brought up in a moment; second, through a committee of the corporation interested, and third, a method which is used in conjunction with the first, namely, visits to the schools by an individual of the corporation. The third method is used as a follow-up for the first mentioned method, the idea being to secure lines on acceptable men through correspondence with the professors, following up the correspondence with personal interviews. The two methods taken together constitute a fairly satisfactory method in the absence of a more standardized plan. There are other methods which are being used, which vary greatly with the practices of different corporations. These comprise in some cases personal visits of applicants, etc., and in other cases written applications only.

The third principal division of the work was concerned with the investigation of the usefulness of the Central Bureau for estimating year by year the future requirements of corporations for technical graduates, etc.

By the way of beginning the discussion, I will read from notes made by Prof. R. L. Sackett, Dean of the School of Engineering of the Pennsylvania State College. He brings out certain points that he believes should be emphasized, and submits the following discussion:

"Your report of the Committee on Technical Training was received and read with care and approval. The report covers the main points at issue in a concise manner. In order to further emphasize the importance of certain features, I submit the following discussion.

"A-3. There are two types of lectures which technical institutions find of value. First, those consisting of films and lantern slides together with a lecture but without the lecturer, and, second, speakers either with or without illustrated material.

The first type of lecture can be obtained at the proper time and used in certain courses illustrative of that particular subject. A number of corporations already provide such lectures. They enlist the interest of the student in the subject and, at the same time, bring to his attention the specific product of the company which provides the lectures.

"Most of the technical institutions conduct courses of lectures by visitors, but find it difficult to select good speakers who, at the same time, understand student audiences and who will speak in such manner as to interest them at the same time that he informs them. It is, of course, desirable that advertising matter should be kept in the background. Of this particular feature very little criticism arises, as those who speak generally give the broader treatment of the subject in the beginning and, in the latter portion of the lecture, give the details of the product or structure in which they deal.

"A-4. Inspection Trips. Corporations are very generous in affording opportunities for the inspection of their plants. We realize that it is difficult to take men in higher positions from their work in order to show students through their plant. Nevertheless if it is desirable to interest the student in the product manufactured or in the processes, then it would be desirable that the guides should be able to explain the processes and point out interesting and important features which would emphasize to the student the most important characteristics of the plant. Frequently guides are unable to speak to the students in a manner to enlist their attention.

"A-6. Closer cooperation between technical schools and the companies employing graduates is desirable in order that each may have the benefit of the judgment and experience of the other. The colleges are interested in directing students toward corporations where the student will be closely observed and given some guidance. It is highly desirable that a form of report should be provided by which the company will submit to the college the results of its observations of the student's technical ability, personality, reliability, etc. The form submitted by the Kansas State Agricultural College is too elaborate for this particular purpose, but a similar report card would serve for the basis of comparison and also for a combined judgment as to the characteristics of the student in question.

"It is important that apprentice courses should begin before a student is graduated and preferably should continue through the vacation periods, beginning with the end of the freshman year. Many students are discouraged from attempting an apprentice course involving a year or two of study after they graduate. Closer cooperation between schools and corporations would lead to select students being sent for various lines of work at the end of their freshman or sophomore year. By the time they were graduated, they would have an accurate knowledge of the work of that corporation and the corporation would know likewise whether it desired to give these men permanent employment or not."

As you will see, Dean Sackett has touched on different points in connection with the report, and indicated those which he considers the most important.

Your Committee has felt that the educational work carried by the corporations is in the right direction; of course, there are certain features of the relations between the technical schools and the corporations which need adjustment, to say the least, and the two fundamental things which we have taken into consideration are, first, the method of selection of the men, and secondly (a point which bears upon the first), the establishment of a record form, and sending the data collected on such record form, to the Central Bureau from which the corporations can make their tentative selections.

REPORT OF COMMITTEE ON TECHNICAL TRAINING

SYNOPSIS OF REPORT

Duties.—To continue the study of how employers of technical graduates can best cooperate with technical institutions.

Lines of investigation of committee of 1918 followed but from a different angle, namely, to get the attitude of corporations toward those methods of cooperation most acceptable to technical institutions, then to make suggestions toward bringing employers into closer and more constant touch with technical schools and colleges.

A. *Making a Survey of Methods Now Used by Employers In*

(1) Cooperating with technical institutions by bringing them into touch with practical problems.

General desire to be helpful along this line expressed by corporations.

(2) Conferences with teaching staffs relative to courses of study, assistance on theses including the suggestion of subjects therefor, furnishing engineering data and literature, models and exhibits.

Many corporations now furnishing data, etc., but few offer assistance in academic subjects or on theses. Requests for such assistance should come from educational institutions. Most corporations willing to cooperate more closely.

(3) Delivering lectures before teaching staffs or students on subjects relating to industries which corporations represent or special problems of corporations themselves.

Majority of corporations do not send lecturers to technical institutions, although the latter find such assistance valuable when properly directed. This work is not organized as it should be.

(4) Facilitating inspection trips of students and professors.

Most corporations welcome such visits when properly organized. Limitations set by many firms on number of visitors at a time. Earnestness of purpose a principal consideration.

(5) Employing instructors during vacations and other periods.

Wide variance of opinions as to value of such arrangement, also wide range of compensation.

(6) Employing undergraduate students during vacation periods.

This practice most acceptable to technical institutions, also to students, now largely followed. When engaged, no consideration is made of future employment, except in special cases.

B. *Selection of Men.*

This is the point of closest contact between employers and technical institutions and deserves extreme consideration.

(1) Employers have received fullest cooperation from technical schools but more cooperation in the other direction needed.

(2) Methods.

(a) Through professors.

This has received approval of most of the schools and is used in conjunction with (c).

(b) Committee of Corporation.

Least used of methods outlined. This is gratifying as majority of schools have condemned it as disorganizing to student body.

(c) Individual of Corporation.

Majority of corporations use this method as a follow-up after (a). The two methods taken together fairly satisfactory in absence of a more efficient and standardized plan.

(d) Other methods.

Personal visits by applicants, interviews with officers of corporations, written applications only, etc.

C. *Investigation of the Usefulness of a Central Bureau for Estimating Year by Year the Future Requirements of Corporations for Technical Graduates, and More Particularly for Collecting Personal Data Concerning Prospective Graduates, to Which Corporations Could Apply for Men.*

Possible value of such bureau clearly shown. Would save corporations much time and expense and greatly facilitate proper selection of men. In this connection it is suggested that a form be established for keeping the personal records of students, which form could be standardized in all technical institutions.

REPORT ON TECHNICAL TRAINING

In 1918 the Committee on Technical Training made a canvass of a large number of educational institutions in the endeavor to determine in what ways employers of technical graduates can cooperate with technical schools. From the data thus gathered and embodied in the report of that Committee, the following conclusions were reached:

(1) That corporations pay more attention than in the past to cooperate in all possible ways with educational institutions, with a view to assisting both instructors and students to a better knowledge of the work and requirements of corporations; and that while the methods of assisting be left to the discretion of the individual corporation, each corporation should endeavor to systematize its cooperation.

(2) That, since the expressed attitude of the educational institutions seems to be in favor of selection of men by individual representatives of corporations or by instructors, very careful and serious consideration be given to the opinion of these institutions as to the present corporation methods of selection, and that changes be made by corporations so as to conform to the ideas expressed with a view to standardizing a plan of selection of men as soon as possible.

(3) That definite action be taken at this time with regard to the formation of some bureau, commission or foundation with duties outlined under heading "C"; and that this action take the form of authorizing an investigation and report to The National Association of Corporation Schools on the formation and operation of such a bureau, commission or foundation.

Having thus obtained the point of view of the technical institutions toward cooperation, it was felt that it was essential to obtain that of corporations, then to reconcile both sides, as it were, by suggesting methods whereby closer and more constant cooperation might be secured to the end that the technical graduate may be of greater value to his employer on his entrance into the business world.

To secure this information a list of leading questions was submitted to each Class "A" member of The National Association of Corporation Schools, totaling one hundred and fifteen. The questions were so framed that they could be answered by "Yes" or "No," but request was made that the answers be amplified so far as possible, that your Committee might be in possession of details which from their nature could not be elicited by general questions.

Sixty-two replies were received, twenty-seven of which were from corporations which do not employ technical graduates. Therefore, this report is based upon the experience of thirty-five companies employing technical graduates, or about 30 per cent of the Class "A" membership. However, as these thirty-five companies are representative of the various industries with which they are identified and extend over sixteen states, your Committee feels justified in formulating its conclusions upon the data thus compiled and presenting its recommendations based thereon.

In preparing this report it has been the endeavor, for purposes of comparison, to follow as closely as possible the outline of the report of 1918. No attempt has been made to cover each point brought out therein, as many ideas were set forth and some general suggestions made in order to induce discussion which unfortunately could not be brought about; these being of a general nature are left without further treatment, while others which bear upon specific conclusions and recommendations are taken up in detail.

A-1. *Cooperating with Technical Schools and Colleges by Bringing Them in Touch with Practical Problems.*

It is asserted that the tendency of the technical institution is toward the academic rather than the practical. This must of necessity be so as it is the function of the technical institution to provide the student with the foundation of engineering theory whereon to build later his superstructure of practice. On the other hand, the acquirement of theory should be so interlaced with practical work that the student will also acquire a sense of commercial values.

The technical institutions welcome the introduction of problems of a practical nature, such as tests of motors for manufacturers; tests for physical properties of samples of steel and other materials; designs of bridges and other structures, etc.

It is true that most manufacturers maintain their own testing laboratories and designing departments and that there are many engineering organizations which specialize in testing of materials as well as in designing, but the fact should not be lost sight of that the student of to-day is the engineer of to-morrow, and it is the duty of industry to make him as efficient as is humanly possible. Therefore, whenever it can be made practicable, work of this nature should be offered to the technical schools. The impression is not to be conveyed that the manufacturer should depend solely upon tests so made or designs so originated. They would simply be duplicates of those made by the manufacturer or by the specialist, and would be offered as exercises along practical lines.

The corporations have expressed their willingness and desire to cooperate. It must be realized that cooperation to be effective must be specific; consequently, effort should be made on the part of the technical schools to determine the nature of the practical problems that will benefit a particular student or group of students, and on the part of the corporations to determine which of their problems could be treated in that manner. All that would remain, then, would be to devise a means whereby the schools and corporations could get together. A suggestion for so doing will be made later.

A-2. *Conferences with Teaching Staffs Relative to Courses of Study, Assistance on Theses, Including the Suggestion of Subjects Therefor, Furnishing Engineering Data and Literature, Models and Exhibits.*

While practically all technical schools are in favor of having assistance of this nature, the majority of corporations do not offer it in connection with courses of study, but they are entirely willing to extend it if desired. The principal reason for the apparent lack of cooperation in this respect may be that the corporation is too deeply engrossed in its own business to look about for other fields of activity, especially such as are apparently not directly related to its own. This has been true especially during the period of the war when maximum production was the first consideration and any expenditure of energy not necessitated by war conditions had to be held in check. Another reason may be reluctance on the part of corporations to volunteer suggestions that might be regarded as intrusive. At any rate it is worthy of note that those employers who do cooperate by conferences relative to courses of study, do so *only when requested.*

The same condition prevails in respect of assistance accorded on theses. The greater number of corporations say that they do not now cooperate, but would gladly do so if desired. This checks in a measure with the observation of a professor in a large university in the middle west, that few suggestions are obtainable from commercial concerns. However, he leaves the inference that the commercial concerns are indifferent, which the investigation just made proves emphatically is not the case.

One manufacturer writes as follows:

"Occasionally we receive a letter from a prospective mechanical or mining engineer, saying that he has been assigned such and such a subject for his graduating thesis, and as that subject happens to be concerned with our product, he asks us for advice as to details. We are always glad to help these young men, giving them what we have in the way of special data publications, photographs, etc., and if they care to visit our factory, the personal attention of our engineers."

Your committee feels that possibly lack of definiteness and too much generalization on the part of the technical institutions are responsible for the condition indicated, and that the attitude of the manufacturer quoted shows that the corporations are desirous to assist if they can only be shown the way to do it.

Most corporations cheerfully furnish engineering data, with literature pertaining to their various products. It is found that of the literature, that of an advertising nature predominates. At first glance, it would seem to have been furnished through not entirely altruistic motives, yet the bulk of the printed matter published by corporations is of an advertising nature; furthermore, it must be borne in mind that advertising literature is calculated to appeal to the needs of the prospective purchaser, so that an intelligent study of such matter will indicate what those needs are, thus bringing the students to a realization of the practical requirements for which a given piece of machinery was designed.

As to furnishing models and exhibits, it was found that manufacturers are cooperating generously. Many of those concerns who indicate that they do not furnish equipment for the purpose were noted to be industries which do not produce machinery, others which are not cooperating in this manner express their willingness to do so. The only suggestion your committee desires to offer in this connection is that the lenders of such apparatus exercise more discretion in the types and sizes of equipment furnished, keeping it up to date to meet constantly changing commercial conditions and insuring its being in operating condition at all times. The institutions receiving the benefit of such equipment should, on their part, assume at least the expenses of transportation and upkeep of the equipment furnished.

A-3. *Delivering Lectures Before Teaching Staffs or Students on Subjects Relating to the Industries Which the Corporations Represent, or Special Problems of the Corporations Themselves.*

The replies received show that about one-half of the corporations are now working on the lecture idea. Twenty-two companies, some of whom are already cooperating in this manner, are willing to send lecturers if requested—eight are unwilling to do so, while five do not indicate their attitude. It is the opinion of your committee that the corporations have been ready to meet the technical institutions at least half way, but the work has gotten out of control, so to speak. Greater care should be exercised by the corporations in assigning the subjects for the lectures, in preparing the lectures themselves and especially in fitting them into the courses which they are expected to enhance. In connection with this latter point, consideration should be given to the times at which they should be delivered, as well as their substance, in other words, cooperation should be maintained between the corporation and the technical institution in order to insure the harmony which is essential to lasting benefit.

A-4. *Facilitating Inspection Trips of Students and Professors.*

The principle of inspection trips has been thoroughly approved by technical institutions, and is concurred in by the majority of corporations, the greater number of which welcome inspection visits when properly organized. The chief objection to such visits is one made by a number of companies to the effect as stated by a large automobile manufacturer:

"Too many students take trip at one time. Should limit number of students per visit to not more than twelve."

Other companies emphasize the earnestness of purpose which should actuate student visitors in order that the object of the visit, i.e., to increase the visitor's fund of knowledge, may be attained.

An objection which one company makes is of peculiar interest:

"That brief trips do not result in benefits commensurate with the work caused and the time taken."

If this means that the company expects to reap any immediate benefit through having a party of students visit its plant, it has entirely the wrong idea as to the purpose of such visits. It is to be expected that some work will be involved on the part of the company visited and that no direct profit will accrue, yet, at the same time, progress is being made in the education of men who at a later date may be of great value to the industry which the company represents.

In line with a suggestion made last year that a list of plants worth visiting be compiled by The National Association of Corporation Schools to which the technical institutions could have access, the direct question was asked of the members:

"Would you be willing to have your plant included in a list to be kept by The National Association of Corporation Schools of those companies inviting inspection trips?"

Twenty-four companies signified their approval in terms varying from

"By all means—Yes!"

to replies such as

"Yes, subject to our approval for any particular visit"

and

"Probably, but would want fuller information as to frequency of trips and number of visitors."

On the other hand, while five companies failed to reply to this question, only six did not wish to be included in such a list. One company wrote "Not at present," while one stated the following objection:

"Doubt the advisability of doing this, as we doubt whether it would be availed of in a useful way."

On the whole, however, it would appear that consent is sufficiently general to warrant the compilation by the Association of a list of available plants which would be of material value to the technical institutions when planning for inspection visits.

A-5. *Employing Instructors During Vacation and Other Periods.*

The answers received to the questions regarding this point were of an unsatisfactory nature considering their purpose. Thirty companies replied, thirteen saying that they employ instructors during their free time; one states "We have done so," while sixteen companies say that they do not employ instructors. No reasons were stated either for or against, except in one instance, as follows:

"The summer months, when instructors are usually seeking employment, represent our normally slack season when we very seldom, if ever, have openings for short time work."

Only six companies stated the compensation for such employment, but their answers vary through such a wide range that it will be of interest to quote them.

(1) 40 cents to 50 cents per hour (day work).
    50 cents to 60 cents per hour (premium).
(2) $20.00 to $40.00 a week.
(3) $75.00 per month.
(4) $100.00 to $150.00 per month.
(5) $100.00 to $150.00 per month and upward.
(6) $150.00 to $300.00 per month.

One company replied "Same as regular," while several reported that the compensation was arranged according to service rendered.

Your committee feels that the foregoing sentence epitomizes the attitude of the majority of corporations toward the employment of instructors. If a man can "pay his own way," well and good, but unless his services can be had at a profit to the employer, there is no incentive for employing him. Moreover, as in the case of the company just quoted, unless there is a place where an instructor would render definite service, there is still less reason for offering him employment.

It may be that during the summer there is an unbalanced condition among the industries, such that some companies have greater opportunities than others along this line. It is also undoubtedly true that companies in certain lines can absorb to good advantage men with academic training. The figures quoted as to compensation indicate that this is the case, although of course there are limits as to the number of men who could be engaged.

With the possibility in mind that organized effort might result in connecting up the man with the job, the following question was incorporated in the list submitted:

"There being a dearth of information regarding vacation opportunities, would you be willing to submit to The National Association of Corporation Schools a list of such opportunities (in your organization) with details as to nature of work, period of employment and compensation attached?"

This question met with a disheartening lack of response, only six companies signifying their willingness to cooperate, fifteen refused, while fourteen made no reply whatever.

While commercial considerations must be reckoned with, it is feared that not sufficient consideration is given to the cooperative value of such employment, so highly endorsed by the technical schools as of a great practical benefit. It must be remembered that this is one of the ways in which corporations can bring the technical institutions into touch with practical problems, and furthermore, that the indirect value to industry imparted through the stimulus given to students by instructors who have received the benefit of outside employment is not to be measured in dollars and cents.

A-6. *Employing Undergraduate Students During Vacation Periods.*

For many years it has been the practice, particularly of the larger corporations, to employ undergraduates during the summer and at times for periods of a year or longer where a student has found it necessary to work for a time in order to earn enough money to keep him in school for another year. The advantages, both to the student and to the corporation employing him are well recognized and it is gratifying to note that the greater number of corporations have approved the principle.

The majority of companies engage these men generally without reference to the future, while a number have courses of training for various classes of men in which credit is given for vacation work. To the men who thus take parts of such training courses, inducement is automatically offered to enter again the employ of the same company when the next vacation time comes around, thus giving the employer option, so to speak, on the men whom he has found most efficient. Many companies recruit their executives and "higher-ups" from among those who originally entered their employ on such a basis.

Your committee has no further recommendations to make in connection with this subject, which apparently is handled in a way satisfactory both to the corporations and the technical students, except to emphasize the advantages to be derived from systematic and well organized courses of training extending over periods totaling a year or more for selected men in undergraduate classes in whom ability can be discerned.

GENERAL REMARKS

It is suggested that the corporations take the initiative in working out a plan whereby cooperation may be obtained with technical institutions on such specific subjects as the experience of the corporations has shown to be in need thereof. This could be accomplished by the formation of a Committee or Committees on Educational Relations with Technical Schools to confer with representatives of technical institutions regarding practical problems for use in the schools, also courses of study, as well as the other subjects discussed in the preceding pages, the corporations then to act upon recommendations made in such conferences.

The Committee or Committees could be organized by the corporations grouped by industries, each company selecting a representative and all representatives selecting from among their number a delegate or delegates to represent that industry on a general committee. Or,

The manufacturers and other employers of technical graduates, in any one locality, regardless of the industries they represent, could make up a Committee which would send a delegate or delegates to a general committee. The operation of the "locality" grouping might be facilitated through the cooperation either of the various associations of manufacturers or through the local chapters of The National Association of Corporation Schools. The "locality" grouping would have the advantage of previous experience and established organization while the "industry" grouping would have the advantage of more thorough analysis of specific industrial problems, as related to the schools.

In either case, the suggestion is made that greater efficiency could be attained in inaugurating a movement of this kind by cooperating with the Society for the Promotion of Engineering Education.

B. *Selection of Men.*

The problem of disposing of the output of the technical institutions is one which properly is that of the graduates themselves. The school or college has completed its task when the graduate is handed his diploma and from then on his future should depend upon himself. It has come to pass, however, that the question which confronts the newly graduated engineer is not "Where can I find a job?" but "Which one of these offers shall I accept?" This condition is brought about by the never-ceasing and constantly increasing demands of industry for technically trained men, and is one which has not been met in an adequate manner. The search by manufacturers for the "best men" of each year's graduating classes has resulted in a situation wherein we find strong competition for their services, which gives them exaggerated ideas of their value, much duplication of effort on the part of prospective employers, and great waste of time and energy on the part of the schools and colleges.

The educational institutions being interested from the advertising standpoint, if from no other, in the successful placing of their graduates, have given employers all possible cooperation in any desired way, even to the detriment of school routine, toward bringing representatives of corporations into contact with prospective graduates. The corporations, however, have not given sufficient consideration to the burden placed upon the schools in their methods of selection, or the effect produced upon the graduates themselves. That the condition indicated has become more and more pronounced has been evident in the experience of those directly engaged in this work, and many expressions have been given to the needs for a better way in which men can be chosen.

The various methods outlined in the synopsis have been submitted to the technical institutions and have been passed upon as indicated. The least objectionable, and the one which is now being followed by most companies, is that of obtaining "leads" on desirable men through correspondence with professors, then following up with personal visits by representatives of the corporations to interview the men suggested in the correspondence. As has been stated, this method has been fairly satisfactory in the absence of one more adequate, but it is becoming more and more burdensome to all concerned. The following letter from a member company illustrates well how apparent is the need for improvement along this line:

"The problem of employing engineering graduates is a very complicated one. The mere mechanical process of visiting the schools and interviewing several hundred men is difficult not only for the interviewer, but for the students and for the school.

"On my last visit to Cornell, I was the twenty-seventh industrial representative to appear at that place that spring, and of course the whole school was pretty much fussed up.

"It has occurred to me, and doubtless to others, that a great deal of the collecting of information concerning what each man wishes to do as well as a complete analysis of his past experiences could be done through some sort of centralized cooperative effort."

Another company finds that on an average it is necessary to interview ten men in order to find one of suitable qualifications. It would welcome any suggestions which would reduce this ratio even to one in five. The inference to be drawn is that preliminary correspondence does not always give sufficient information to show whether an interview would or would not be desirable. It is not to be expected that one letter from one professor or instructor would invariably give a well-balanced and careful estimate of a man's qualifications for any given affiliation. The writer might be swayed, unconsciously it is true, by personal prejudice, or not being intimately acquainted with the student might be unable to give the sort of estimate which the corporation would require. If he had access to a record covering the student's entire course, or at least the last two years thereof, with an estimate of personal attributes by each professor or instructor with whom the student had come into contact, then his letter could undoubtedly be made authoritative.

In this connection it is interesting to learn that at least three large universities in the middle west, realizing the necessity of keeping accurate records of this nature, have independently established systems for collecting the data. As yet, however, their methods are in a formative stage, and are not sufficiently perfected to justify publication.

In the belief that the carrying out of the suggestion in the third paragraph of the letter quoted above will go a long way toward solving this most important problem, the following question was submitted to the corporations:

"Would a personal record to be compiled by the school and available to the employer showing a student's special aptitude and qualifications as judged by his instructors over his junior and senior years in school be of value to you in hiring the graduates of such schools?"

The answers received were practically unanimous in the affirmative, only four companies saying "No," while two did not reply. In view of the eagerness evinced your committee feels that the time is ripe for the inauguration of a definite plan along this line. Suggestions for a standard form of personal record will appear in later pages of this report.

C. *Investigation of the Usefulness of a Central Bureau for Estimating Year by Year the Future Requirements of Corporations for Technical Graduates, and More Particularly for Collecting Personal Data Concerning Prospective Graduates, to Which Corporations Could Apply for Men.*

Most of the corporations signify their willingness to cooperate with a bureau organized for the purposes indicated. Such a bureau would not only be a means for saving the corporations a large amount of time and expense, but would also serve to stabilize the output of the technical institutions by enabling their executives to direct the energies of the students along channels which will lead to connections most profitable to the industries, as well as to the students themselves.

It would necessarily have to operate over a period of years before its usefulness would assume tangible proportions, both on account of the time element involved in working out and proving expectancy curves, as well as the length of time required to put into effect a standard method of recording personal data concerning students and to establish the proper way in which to collect and impart the information so secured.

There are two ways in which the functions described could be performed:

(1) By a "Graduate Engineers Service Bureau" administered by The National Association of Corporation Schools.

The manner of its organization, financing and maintenance should be the subject of a special report.

(2) By cooperation with an already established agency. In this connection your Committee calls attention to the Engineering Societies Employment Bureau, organized recently under the auspices of the American Society of Civil Engineers, the American Institution of Mining Engineers, the American Society of Mechanical Engineers and the American Institute of Electrical Engineers. It is located at 29 West 39th Street, New York, W. V. Brown, Manager. While this joint bureau was created for the purpose of coordinating the employment activities of the four societies in respect of engineers in actual practice, its scope has been considerably broadened. Correspondence with the bureau discloses that it is now assisting newly graduated engineers in forming suitable connections, this service being extended without charge. It occurs to your Committee that this organization with some expansion could handle admirably the preparation for future requirements as well as the personal record idea previously described.

It was thought that a personal record initiated by the School Registrar, when the student enrolled, and completed during the last two years of his course by his instructors, the record to be compiled by the School Secretary should answer the purpose for which it is designed. The School Secretary would furnish a copy of this record to the student's prospective employer upon request, the information to be treated as confidential.

Our Class "A" members were asked as to the characteristics which such a record should emphasize.

The qualities which it was thought should be emphasized in the record when analyzed and classified, grouped themselves under the headings: Scholarship, technical ability, mathematical ability, literary ability, commercial ability, executive ability, mechanical ability, leadership, sociability, personality, habits, general health.

PERSONAL RECORD FORM

It was found that several companies are now and have been for some time keeping such records of their employes both in training courses and in actual employment. Reproductions of the forms used by a large financial institution are shown in Plates 1 and 2, while those used by The New York Edison Company are shown in Plates 3, 4, 5 and 6. These are of interest as indicating the qualities which these two great organizations regard as preeminent.

To show what is already being done in this direction, the Characters and Personality Record of the Kansas State Agricultural College is reproduced, Plate 7.

Your Committee submits a system of forms for personal record, suggesting that it be considered by the members of the Association, and if adopted in principle, by them to be submitted to those schools and colleges that have expressed willingness to cooperate with the Association.

In compiling the proposed record three cards are required, the Registrar's Card, Plate 8, the Instructor's Card, Plate 9, and the School Secretary's Card, Plate 10. The information furnished the student's prospective employer should be supplemented by a specimen of the Instructor's Card showing how the student's work and qualities were rated and a photograph of the student. The student should be advised of the purpose of the record. He should be allowed to see his record at the School Secretary's office, and he should be encouraged to consult with his professors concerning his deficiencies. Only in this way could the largest measure of good be derived from the record.

Your Committee presents four recommendations for your consideration:

(1) That the corporations be urged to consider the formation of a Committee on Educational Relations with Technical Schools to confer with representatives of the schools regarding specific points on which cooperation should be secured, the corporations then to act upon the recommendations made in such conferences.

(2) That The National Association of Corporation Schools authorize the design of a standard record form, through an investigation to determine the features required therein by the corporations and its acceptability to the technical institutions.

(3) That the methods of selection of men be so directed as to lead toward the securing of complete personal data as the first step in all cases where application has been made to technical institutions.

(4) That The National Association of Corporation Schools authorize an investigation leading toward either the establishment of a bureau with duties as outlined under "C" or cooperation with an already established organization to the same purpose.

A LARGE FINANCIAL INSTITUTION OF NEW YORK CITY

Personal Report

Date..1917

Employe .... Age ....

Department .... Position, or nature of work ....

....

1. Interest (in his work)	Enthusiastic	Interested	Lacks Interest
2. Application (Attention to work)	Industrious	Fair Worker	Inattentive
3. Aptitude (Ability to learn)	Exceptional	Ordinary	Slow
4. Reliability (Trustworthiness)	Trustworthy		Unreliable
5. Accuracy (Freedom from errors)	Exceptionally Accurate	Ordinarily Accurate	Inaccurate
6. Willingness	Eager to serve	Willing	Unwilling
7. Tact.	Tactful		Lacks Tact
8. Speed	Exceptionally Rapid	Ordinary	Slow
9. Cooperation	Excellent	Satisfactory	Antagonistic
10. Personality and Address	Very Pleasing	Good	Unattractive
11. Self-Confidence	Proper Amount		Lacks Confidence Over-Confident
12. Executive ability (Ability to direct or supervise)	Marked	Fair	No evidence
13. Initiative	Unusual degree	Good	Lacking
14. Courtesy	Very courteous	Average	Rude

Signed..

FIG. 1.

Personal Report

(To be used for members of the college class)

Date..

Name ....

Department ....

Length of time in Department..

Note—The department head is requested to give his estimate of the student's characteristics relative to the points listed on the back of this report, and in addition to give under "General Comment" a few general remarks indicating his confidential opinion of the student, including any observations he may deem relevant,

GENERAL COMMENT:

....

....

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....

....

STUDENT'S DEPARTMENT REPORT (Excellent) (Fair) (Poor)

FURTHER REMARKS CONCERNING THIS REPORT:

FIG. 2.

THE NEW YORK EDISON COMPANY

Contract and Inspection Department

Employes' Personal Record

Date ....

Name .... Bureau .... Position ....
Home Address .... Date of Birth..........
Education ....

....

Entered Employ of Company .... Position ....
History in Company ....
Positions Held Before Coming to the Company ....

....

Health .... Personal Appearance ....
Characteristics ....

....

Report of Manager

Principal Work Since Coming to Bureau ....
Adapted to Work ....
Sufficiently Trained ....
Capable of Filling a Better Position ....
Special Aptitude or Possibilities ....
Commercial .... Technical ....
Attitude Toward Duties ....
Prompt ....
Accurate ....
Needs Supervision ....
Team Work ....
Pronounced Faults or Bad Habits ....
Pronounced Good Habits ....
Remarks of Manager ....

FIG. 3.

Reports of Previous Managers

....

....

....

Statement of Person Making Survey

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....

....

Statement of Manager of the Bureau of Education

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....

....

School Record

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Report of Progress

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Fig. 4.

THE NEW YORK EDISON COMPANY

Contract and Inspection Department

Employes' Personal Record

Report of Progress

Name ....

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Fig. 5.

Report of Progress

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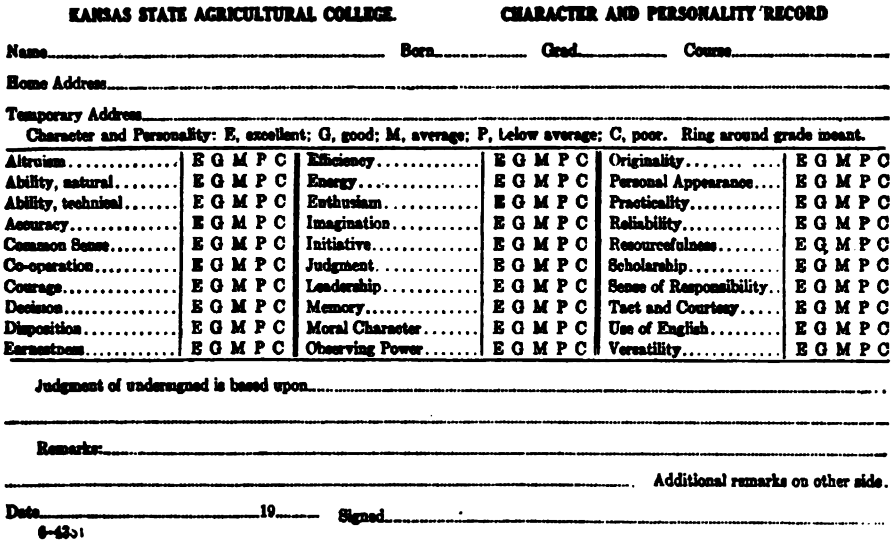
Fig. 6.



KANSAS STATE AGRICULTURAL COLLEGE. **CHARACTER AND PERSONALITY RECORD**

Name____________ **Born**______ **Grad**______ **Course**________

Home Address____________________

Temporary Address____________________

Character and Personality: E, excellent; G, good; M, average; P, below average; C, poor. Ring around grade meant.

Altruism	E G M P C	Efficiency	E G M P C	Originality	E G M P C
Ability, natural	E G M P C	Energy	E G M P C	Personal Appearance	E G M P C
Ability, technical	E G M P C	Enthusiasm	E G M P C	Practicality	E G M P C
Accuracy	E G M P C	Imagination	E G M P C	Reliability	E G M P C
Common Sense	E G M P C	Initiative	E G M P C	Resourcefulness	E G M P C
Co-operation	E G M P C	Judgment	E G M P C	Scholarship	E G M P C
Courage	E G M P C	Leadership	E G M P C	Sense of Responsibility	E G M P C
Decision	E G M P C	Memory	E G M P C	Tact and Courtesy	E G M P C
Disposition	E G M P C	Moral Character	E G M P C	Use of English	E G M P C
Earnestness	E G M P C	Observing Power	E G M P C	Versatility	E G M P C

Judgment of undersigned is based upon____________________

____

Remarks:____________________

________________ **Additional remarks on other side.**

Date____________19____ **Signed**____________

6-4351

FIG. 7.

Student's Personal Record

Registrar's Card

Name of School ....
Student's Name ....
Home Address ....

(Information to be obtained by registrar when student enters school.)

Student's Age ....
Nationality ....
Preparatory Education ....
Grade of Scholarship ....
Technical and Commercial Experience ....
  (a) Before entering school ....
  (b) Vacation employment ....

Ascertain if possible the position or ultimate connection the student desires to obtain upon completing his course.

Remarks:

....

....

....

....

....

....

Signed ....
School Registrar ....

Date ....

FIG. 8.

Student's Personal Record

Instructor's Card

Name of School ....
Student's Name ....
Home Address ....
Instructor's Name ....

Subjects Taught	Student's Rating	Subjects Taught	Student's Rating

	INSTRUCTOR'S OPINION CONCERNING	SCORE		INSTRUCTOR'S OPINION CONCERNING	SCORE
1	Student's Technical Ability		7	Student's Personality: Dynamic Static	
2	" Mathematical "		8	Student's Leadership	
3	" Literary "		9	" Sociability	
4	" Commercial "		10	" Habits	
5	" Executive "		11	" General Health	
6	" Mechanical "				

Total Score..........................

Remarks:

Give any additional information concerning the student that you consider would be helpful to his prospective employer.

....

....

Signed ....
Instructor ....

Date ....

Instructions for Scoring

Reduce opinion on each of the eleven qualities to one of the following words or expressions:

1. Hopeless
2. Deficient
3. Very poor
4. Poor
5. Fair
6. Good
7. Very good
8. Excellent
9. Exceptional

Score the number of the word or words that best expresses opinion.

FIG. 9.

Student's Personal Record

Secretary's Card

Name of School ....

Student's Name ....

Home Address ....

(Information to be obtained from the Instructors' Cards by the School Secretary.) Studies completed during Junior and Senior Years.

SUBJECT	RATING %	SUBJECT	RATING %

Instructors' Scores

(Information to be compiled from Instructors' Score Cards.)

NAME OF INSTRUCTOR	SUBJECTS TAUGHT	SCORE	NAME OF INSTRUCTOR	SUBJECTS TAUGHT	SCORE

Signed ....

School Secretary.

Date ....

FIG. 10.

CHAIRMAN BENEDICT: The report of the Committee is now open for discussion. A number of our companies represented here are particularly interested in the employment of technical men, and many of them have established training courses for such men. We would like to hear from those who are now operating and have operated such courses, as to their relations with the technical institutions, and particularly the methods they use in the selection of the men. The General Electric Company maintains such a course, and I would very much like to have a representative of that company begin the discussion, if that is possible.

MR. G. H. PFEIF (General Electric Company): The General Electric Company maintains courses for technical graduates, and we have given special consideration to most of the points covered by the paper.

Employment of undergraduate students during summer vacation: We are employing at the Schenectady Works a number of men who have finished their junior year in electrical engineering. They are not competent workmen, but they are in touch with real engineering problems and go back to college with a new point of view. Our experience is limited, but indicates that these men make better students and better engineers.

We have no special courses for men who have finished one or two years of college work. If business conditions permit, we place them on productive work in the factory, but have nothing when conditions are reversed and our shopmen are not working full time.

Supplying Colleges with Material or Literature: Literature is supplied at regular intervals and the company gives careful consideration to requests for samples, exhibits, etc., but we feel that the colleges should take the initiative in this matter.

Films and lantern slides are available and are accompanied by a lecture which has been prepared by a specialist.

Selection of Men and Personnel Records: In selecting men for our organization, we take into consideration the scholastic record, the opinion of the various professors and the opinion of the student body and combine this with a personal interview and a survey of their college activities. We try to get the fellows who are interested in manufacturing and engineering and then develop them along special lines. We keep a detailed record of their work and personal characteristics and endeavor in this way to fit the man to the job.

CHAIRMAN BENEDICT: I ask Mr. Pfeif if his company has felt the desirability or value of securing such advance information regarding students in a comprehensive way, such as has been outlined, and if it would be of assistance in saving time and expense, and saving the intangible danger which confronts the student body, from a constant procession of men from the various corporations.

MR. PFEIF: I assume that that statement is correct, but I am quite certain, if you establish a central bureau, you will lose the personal element in the situation. If your representatives visit the colleges and become acquainted with the professors and instructors, you gradually find out their methods of grading men, and that gives you certain information. If that was sent to a central bureau and tabulated and we called on the bureau and got the tabulated data without any knowledge of the man who furnished the data, we would be at sea. I do not see how you could establish the bureau and still keep the personal touch necessary in the selection of the men.

MR. F. R. JENKINS (Commonwealth Edison Company): In Chicago some five or six years ago we undertook to select from the various technical schools from forty to sixty men a year and put them into our organization by the way of a training course. We operate a public utility, an electric lighting and power public utility concern in Chicago, The Commonwealth Edison Company. We took for a while only graduates, and we had a year's course, which extended to eleven months only in some cases.

About three years ago we undertook the method as outlined in the report, taking undergraduates. At that time we had a meeting in Chicago attended by professors from about five universities in the Middle West. We discussed the proposition with them with the idea of laying out, as far as possible, the general training of the boy at school as well as after he had got into the corporation. The universities, I believe, would like to have the corporations take the men after they have finished their first year, but we decided that we would not start a man until after he had finished his sophomore year, for the reason that a large number of men only get one year at college, and then for various reasons drop out. The idea was, we would give them courses of five periods, approximately three months in each period. The first two periods could be taken during their vacations, the sophomore could come approximately from June 15th to September 15th, and then again after his junior year, and he would come again after his graduation and complete the course.

The course has been revised, not with a view of making money out of the men, but with a view of making the men the best possible central station men. I will say, generally speaking, we have had good success with these courses, although there are a lot of points which we do not feel we have been successful in.

One of the points that all corporations find in getting the men from the various universities is the fact that the men usually look at how much money they are going to get. A lot of them have a college debt, and most of them feel they want to make as much money as they can. They know they can go out and do manual labor, especially in these times, as lots of undergraduates are doing, and make $4 or $5 per day during their vacations, and many of them have done it. Many of them, also, want to get the money and the training at the same time. In attracting men to the training end we naturally get men who are anxious to benefit themselves by getting some training, but at the same time you will find most of the boys feel that they want to get the job that has the most money in it. At their age they are not capable of deciding for themselves, and do not appreciate the benefit of such a course; at least, a large number of them do not.

Then, as the courses are laid out, we put them on a course where there is a lot to be learned. We had an experience with a man last summer, a sophomore in the electrical engineering course of a college. We could not put him on any laboratory work or testing work or anything of that kind, as he had just had only two years, so we put him into the commercial branch of our business, and he was there about a month when he came to me and said—"I am not learning anything in this work I am doing here. It is work in the storehouse and keeping records." I talked to him about fifteen minutes and asked him a few questions. I asked him if he knew what the income to the company would be from each flat iron sold. No, he did not know that. I asked him if he knew how much it cost to operate a flat iron in a residence. He did not know that. I then asked him how much energy a certain article would take, and he said he did not know that. And I then said—"You see there are many things concerning the business about which you do not know anything. Now, if you want to make yourself of the greatest value to the company, you must learn about these things." He went back on the job in a different frame of mind. He came back after the period was completed and said that he was learning more than he thought he could learn, and he was tickled to death with the opportunity in the place he was holding. The men need a good deal of guidance along these lines.

The universities like to have this cooperation, and they are entitled to it, and there is a committee being formed in Illinois to handle employment plans for the graduates and undergraduates of the various universities also to enlarge their relations with the corporation on a more comprehensive scale.

MR. W. N. FENNINGER (Brooklyn Edison Company, Inc.): I think there are a couple of points in the report which will bear emphasis. The last member who spoke mentioned the matter of cooperation between the corporations and the students during their summer vacations. While that is very important, I think I ought to emphasize also the cooperation between the corporations and the teachers during the summer. I have been teaching in a technical institution until two months ago, when I came to the Brooklyn Edison Company, so I represent the teachers' point of view, perhaps, because I have not been with the corporation long enough to thoroughly represent the corporation point of view. I know that a great many of the students in the technical institutions cannot afford to go to the corporation in the summer time primarily for experience, although I admit it is highly desirable. Many men will not avail themselves of such opportunities simply because it is financially impossible.

I also find many of the students when they go out from school have the idea they are going to make money hand over fist immediately. They have been made to believe by their teachers that a technical education was necessary, and now that they have gotten it, they think they will make big money immediately. A great deal of that feeling is the fault of the teacher. Many teachers of technical subjects have not themselves seen the necessity of cooperating with the corporations, and do not bring the corporation point of view to bear on this matter. Many of the corporations are doing a great deal to give the teachers a chance to do special work for the corporations and to earn additional money in the summer time, but as this report says, there is a wide divergence of opinion as to the value of such service, and also a wide variation as to the amount of money that is given the teachers for such service. As we know, the teachers do not need an automobile to carry their salaries home at the end of each month, and so it is hard for them to go to a manufacturing concern in the summer time and work for almost nothing, but that seems to be a part of the game, and I cannot see that a corporation, in general, can be expected to give them a large salary for two or three months' work in the summer time.

It seems to me, however, the other advantages which are to be gotten out of that sort of cooperation are more valuable than the monetary return which the instructor could expect to get. I can say from my experience that this plan is very profitable to both instructor and corporation. I had the pleasure of spending a most profitable summer vacation last year with one of the large manufacturing concerns in this way, and can testify to the great value derived from it. It gave me many points of view I did not have before.

As to the subject of records. Having been connected with an educational institution I had the duty of keeping these students' records. It is a very hard thing to keep any sort of a record regarding a student. While I admit the desirability of the central record, as has been suggested by this Committee, provided they understand enough about keeping that record, as Mr. Pfeif suggested, so that it will really mean something, yet, I am rather doubtful of the practical value of such records. I have with a good deal of amusement looked over the record cards of the students and found that, if you look over the record cards of six or seven instructors you will find them varying almost all the way from zero to one hundred per cent in their rating of the same man on the same characteristic. That is not the rule, but occasionally that is true. That is one of the faults of the central record. If we can develop the psychological tests so that these records will mean a little bit more, and do more to eliminate the personal equation, I think these records will be of considerable value.

MR. MYRON S. HAZEN (American Agricultural Chemical Company): I represent a branch of technical training which is entirely different from that of the larger number of the companies represented here. Our work is entirely along agricultural lines, specifically along the fertilizer line, so that we reach out for the men who are graduates from the various agricultural colleges. We are practically the only one in our industry that has ever gone into that sort of work. I have been especially interested in the matter, because I happen to be one of the first products of that training course, and have personally followed it for some ten years. The proposition we have had to combat has been rather difficult, because of the fact that we have to go along an uncharted course, as we have a comparatively limited field to work in. We look for men of a rather peculiar type. We consider the previous history of the man almost as important, and in some cases more important, than the actual work which the man has done in college. We want a man who is raised on a farm, who knows from personal experience the actual practical side of the farming industry. Then we want a fellow who is a good all-'round man, who has made good in college, especially in college activities rather than on the book learning end.

When we started out to get this type of man and wrote to the various colleges, we found there was a tendency to send men who made an excellent record in their classes rather than aggressive all-'round fellows. Our early experiences along this line were anything but satisfactory and we finally decided the only way that we would get the men of the class we needed in our organization was by conducting a personal educational campaign with the professors and teachers in the various colleges.

The course has never been extended through our entire organization, and it is only handled through one subsidiary company, which covers a small territory, so that the number of institutions that have men suitable for our work are comparatively limited, and this fact makes it possible for us to know intimately the various professors. We ask these professors to recommend four or five men who are the caliber of men we desire, and then we check these up through other fellows we have in our employ. We have in our employ representatives of practically every institution from whom we draw men, and by means of their personal friendships with the undergraduate and acquaintances with the professors in colleges we get a check on every recommendation.

As far as possible we try to interview personally every man who applies for a position. We have found our biggest success in this work of training graduates of colleges and schools depends on our ability to give the man a chance to show, in each department, his special aptitude for the work of that department, if he has any such aptitude.

I do not know whether the Central Bureau would work in these purely technical schools, and I am quite sure, from our standpoint, the plan we use would be more successful, and in our opinion, the personal element is, in the last analysis, the yard stick by which we measure the successful operation of the plan.

Mr. J. E. Banks (American Bridge Company): The American Bridge Company has chosen most of its new technical men by correspondence, whether needed for the drawing room, or the shop position. Instead of getting their men from certain large universities only, they choose from practically all of the institutions in the United States which can be at all considered worthy; not only from the North, but from the South, Far West, Middle West, everywhere, and these men are used in all the various departments of the company. I think there is something of good in this plan. Of course, we can not personally visit all these places, but we have got to know pretty well from the professor at the head of each department as to the probable real qualities of the student coming. We know that one man will be full of hope regarding all his students, optimistic as to their abilities and the possibility of their careers in the industrial world; and another man will be pessimistic regarding some of his students. We use our judgment and the professor's in part in selecting the right man for the position.

Necessarily we lose a portion of the best men whom we train, and in a way are glad to lose them. A good man going out from our company and feeling friendly towards us, is one of the best advertising means that we can think of to uphold the good name of our company. We take on college professors every summer and pay them more than they are worth. If he is a good college professor, he wants to learn something. A man like that, coming to learn something in an industrial institution naturally becomes a friend of the institution, understands something about it, and wants to send his best students there and, when he has a chance, speaks kindly of the company. It has been a sales proposition as well as an engineering proposition, in our case.

Mr. Reist: I should like to say a word to emphasize what I believe is the great desirability of employing the undergraduate during the summer. In that way they can get acquainted with the employer and the employer gets acquainted with the student, probably much better than by correspondence, by a short conversation or by an estimate from the instructors. The student has an advantage in seeing whether the class of work that is offered in an industry is congenial to him, whether the surroundings are attractive, and it gives him an opportunity to change without any great hardship, because the next summer he can go somewhere else, or after he graduates he can go somewhere else, but if he does not have a "try out" until after he graduates, it makes it rather awkward for him to make a change. It also employs his summer, which otherwise would be largely wasted, so far as advancement in his profession is concerned.

I remember a class of such boys who enjoyed their summer's work tremendously, just as much as if they had had a vacation, and I am sure, after they went back to college, they learned a great deal more in their college work than they would have done if they had not had this touch of practical work given to them.

Chairman Benedict: I will revert to what Mr. Banks said about the employment of the instructor who got the skew portal all wrong. I think the employment of that man was exactly along the line which the institutions have indicated to be particularly desirable, namely, that of giving the instructor an insight into actual commercial engineering conditions. Activities of that kind are what our association is striving for. They represent cooperation along specific lines, and nothing can be accomplished of great value unless the work is conducted along specific lines. That is one thing wherein our cooperation has fallen down.

In the report of the Committee it is indicated that any cooperation to be effective must be specific, and that is one reason the corporations have not felt more free to offer assistance to the schools, simply because they have not known exactly what kind of assistance the schools wanted. Requests for such assistance should come from the technical institutions, the question being how to get the technical institutions and the corporations together.

I would like to present for your consideration one of the recommendations made in this report—"That the corporations be urged to consider the formation of a Committee on Educational Relations with Technical Schools." One way to accomplish that result would be by the industries grouping themselves together, and that brings back some of the remarks made by Mr. Fenninger a little while ago, to the effect that an industry which desires to give the technical schools an insight into their particular lines of work, should cooperate with the schools which specialize in their lines of work. For instance, the company which I represent, the Goodman Manufacturing Company, builds electric coal mining machinery. We try to keep in touch with the colleges presenting courses in mining engineering. We have frequently taken in men from such institutions to give them an insight into practical coal mining conditions, and then they go back to their schools. They have received a new impetus towards the acquirement of very definite information, and they know what to go after, and by the time they get back to college they know how to get it. I would like to leave the point with you for consideration, which is that we specify cooperation along definitely established lines. I would like to hear some remarks along that line.

MR. ASHE: I was wondering whether it was within the province of this Committee to make specific recommendations to the colleges along the lines of cooperation, as to ways in which they might provide other methods of training, so as to make college men still more useful to the industry. The thought I have in mind is this: Naturally, college men and I taught in college for twelve years and am always a great believer in college men—are very enthusiastic, which is a valuable thing, and while they are very good team workers, still a great many of them are woefully lacking in initiative and in thoroughness. Part of this, and a very large part of it, is due to the system of training which has come about from handling large groups of men in college where the work is coordinated and laid out under a uniform system lacking in the development of individual initiative. In the early days, when the colleges were not so large, and the instructors were able to give the students a good deal of individual research work to stimulate the men, and the men had to do this individual research work, this very fact of giving this individual work to men trained them to the necessity of relying on the results they secured, and of interpreting these results themselves properly, and this brought about a greater appreciation of the value of thoroughness, and I think under those circumstances we got more brilliant engineers, in a way, than we are getting with the present system. With the present system oftentimes you get men who have not the characteristics and are not educated for the line chosen—some of them are not—and oftentimes it becomes a difficult matter to get rid of them. It is like the story that Charlie Schwab tells. They had a man they wanted to get rid of very badly, and finally the foreman summed up courage and told the man he had to go. Next morning Schwab went out and found the big Irishman at his task. Schwab said: "Didn't I fire you?" The Irishman replied: "Yes, Charlie, but you don't want to do that again; my wife gave me hell."

MR. BANKS: I would like to see the bureau that is recommended established. I doubt if we could use it very much at first, as far as getting students into our company is concerned, but I think we would come to use it in time and would find it of great assistance.

CHAIRMAN BENEDICT: In outlining such a bureau or central place where records could be kept, it is not the idea in any way to have that take the place of the personal relationship which must be established between employer and prospective employe. The sole purpose of this bureau is to get a concise and well averaged opinion, one might say, of the student, under consideration.

The statement was made a little while ago by Mr. Fenninger that in seeking information regarding his prospective employes from the professors of colleges he had a wide variance of opinion from different instructors regarding the same man. That is to be expected, and that fact indicates clearly the necessity of having a number of opinions collected in one place, for the reason that if one man's opinion is relied on, as to the desirability of a candidate, that man's opinion might be biased—unconsciously, perhaps—but the point is that it might be a wrong opinion for the purposes of the corporation.

Now, if this record is kept over a period of years, then the result will be a fair average of that man's abilities, and we can use that as a reliable starting point on which to base the personal relations that must be entered into before the candidate can be either accepted or finally rejected.

Has anyone any remarks to make regarding the establishment of such a record form? Mr. Banks has stated his company would find such a bureau a valuable adjunct to their employment methods of securing technical men.

MR. JENKINS: I believe such a record form would be of assistance, but I do not think it would be anywhere near final. I understand the committee does not recommend it as final. At Purdue University Prof. Harding has a record somewhat along these lines of all his graduates yearly. They have eight or ten characteristics which they grade, including popularity, initiative, and a number of others, and they are graded in three different ways, and graded then by the students themselves on fellow classmates.

That is a great help, but at the same time we have got to have the selection of the men by the representatives, and that brings up a point which has been of considerable annoyance to the universities as well as to the corporations, and that is the matter of so many representatives visiting yearly the different universities in search of men. During the past few years that, of course, has been interfered with by the war, but I have visited a few of the colleges myself during that time, and I find the men are too much sought after. Naturally, at their age, and you cannot blame them, they get quite a swell headed idea of the fact, whether they say so or not, that the Commonwealth Edison Company, the General Electric Company, the Westinghouse Manufacturing Company, or the National Lamp Works has made them a direct offer for their services. That should be counteracted in some way, and I always try to throw a bomb into them to overcome, if they can, the feeling that they are in great demand, that the need of the corporations for their services is dire, and that the corporations are facing ruination if they do not get them. Along these lines, you will find some universities where the professor takes a crack at them several times during the year and tries to impress upon them that when they get through school they have a foundation on which to go out and learn something. One of our men in our corporation claims—and he may be half right—that a college man is no good until he has been out of college and at work for two years. He claims that they then reach the proper stage of humiliation to appreciate how little they know.

In working under this system of reports as recommended by the Committee, we can work with the professors, and try to get the men to feel, as most college men feel after they have been out two years, and they find out how little they know, that if we can start them in this way, we will get along a great deal better.

Mr. Skiff: I would like to correct one impression that possibly has been made by this report. Mr. Benedict stated that he did not expect that the establishment of the bureau, such as has been suggested in the report, would be a panacea for all ills, or would do away with the necessity for personal contact. On the other hand, it has appeared to the Committee that such a scheme might eliminate quite a lot of work on the part of corporation representatives, in this way: That instead of going to the university and college and talking to a group of men or to the men as individuals, the representative might go to this central bureau or obtain from the bureau a list of the men particularly qualified for the corporation he represents, and then possibly he would go to the college and simply interview a relatively small number of men whose names had been given him as possible candidates for his particular use.

I happen to be one of the founders of the scheme of visiting the colleges for the purpose of selecting graduates, and this spring there were a number of times when these parties that were visiting the colleges for this purpose ran into one another. At one institution, when our committee of three was there, we conflicted with our friends from the Westinghouse Electric Manufacturing Company, because they were there the same day, and before we got away (we were there overnight), there were six representatives of the American Telephone and Telegraph Company there, and before we got through we decided the best scheme all around would be to hire a special train and make the trip altogether, so that we could have a jolly party every evening.

There is no doubt of the fact, as Mr. Jenkins pointed out, that the fellows in colleges get swelled heads when they see the representatives of these corporations going around visiting the colleges for the purpose of securing their services. We cannot help that, and we cannot blame them, and the idea of the central bureau was to eliminate that factor to a certain extent, at least to make it possible for the corporation representative to interview a relatively small number of men who might be interested in the work that the company had to offer. The man whose records were consistently good would be the man sought by every concern in the field, and there might be a tendency, through the operation of such a scheme, if it was put into effect, of that particular fellow getting an unusually large swelled head. I do not know how that would work out, but I would like to hear some expressions from other concerns that employ a considerable number of technical men. I see a representative of the Westinghouse Company here, and I would like to hear from him and also some of the others. I think this scheme, if it is put into effect in any way, will help in the solution of the problem; it will not settle it, by any means, but it will help in the solution of it.

Mr. Coler: Before stating definitely just whether we think such a scheme would work or not, I would personally be interested in having a few more details as to just how this Committee would function, and just who would be the men who would do the selecting. I see no reason, as far as I have thought about the question, why it would not be a desirable thing to have more information regarding the various men who are available for industrial jobs. It seems to me that what we want is more a statement of facts regarding the men, from records, and also a statement of opinion from those men who have worked closely with the students.

I doubt whether any committee would be qualified to make very definite selections, and I doubt very much whether the students themselves would want to go along with any recommendations made by one central committee that attempted to place them definitely with various concerns.

It seems to me, then, that the main thing we are after is more information that will help us to make the selection of the men whom we should follow up for each line of work.

There is one other thing I desire to refer to, in this connection, and that is the importance of teachers' summer courses. For a number of years we have been conducting a five weeks' summer school for technical teachers. I feel that we can very heartily back up this course and say that the results have been satisfactory —mutually satisfactory—and in the end those are the only results that count. In general, we have taken on from twenty to thirty-five technical teachers each summer, and I believe that these men have gone back to their schools feeling that their time has been spent very constructively. I am sure that cooperation of this kind will lead to a better understanding between industry and the technical schools. This in turn will greatly aid in the proper placement of the graduates.

CHAIRMAN BENEDICT: I would like to say to Mr. Coler it was not contemplated that any committee would select men for any industries, but it was contemplated that the function of this bureau would be to do just exactly what Mr. Coler says its proper function would be—to collect information. The technical schools would keep their records—it would take quite a while to get such a scheme in operation, as is obvious, but after a period of three or four years, then the institutions, all the various schools and colleges, would send in their records on prospective graduates to the central bureau, and the corporations desiring men would send to this bureau a list of their specifications which would check with the records the central bureau would keep. It would be a matter of selecting the names of as many men as would be required, who could comply with the qualifications demanded by the corporations. The corporations would receive the list with the information necessary and then make their personal interviews as required, as indicated by the information received.

MR. COLER: The information would be compiled by the secretaries of the schools?

CHAIRMAN BENEDICT: Exactly.

MR. COLER: I see no objection to that scheme.

CHAIRMAN BENEDICT: It is a saving of time and expense, and preventing disturbance to the student body—and would tend to minimize cases of swelled heads.

MISS LUCILLE CAZIER (Robt. H. Ingersoll & Bro.): I wonder if the bureau contemplated has not a direct precedent set for it by the inter-collegiate bureaus established in Chicago and New York for college women in occupations other than teaching. You know about those bureaus and their cooperation with various colleges?

CHAIRMAN BENEDICT: I know there is such a bureau, but I am not familiar with it.

MISS CAZIER: These bureaus occupy a very important place in supplying positions to college bred women and in helping firms secure their services. The bureau in Chicago is operated by the Association of Collegiate Alumnæ, and that in New York by joint operations of the various Eastern women's colleges. While these bureaus were not operated from the corporation standpoint, they offered a very real service to industry none the less. Recommendations are sent directly from the colleges to the bureaus and from them to the firms interested.

During the war the New York Inter-Collegiate Bureau was taken over by the United States Employment Service as its Professional Division for women, and its usual work was interrupted somewhat by that fact, but I think plans are on foot to restore it to its original form of operation.

CHAIRMAN BENEDICT: Our President, Dr. Rowe, suggested we adjourn the meeting at this point, as we have an hour and a half before the afternoon session begins, and we can use that time for luncheon unless some one has some ideas to offer which will be of interest to the meeting.

If not, the meeting will stand adjourned until two o'clock.

COMMITTEE ON ORGANIZATION AND ADMINISTRATION

Dr. LEE GALLOWAY, *Chairman*
NEW YORK UNIVERSITY
New York, N. Y.

Mr. MYRON S. HAZEN
AMERICAN AGRICULTURAL CHEMICAL CO.
New York City.

Mr. A. W. LeBOEUF
REMINGTON ARMS UNION METALLIC CARTRIDGE CO.,
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Mr. BEN S. READ
SOUTHWESTERN BELL TELEPHONE CO.
St. Louis, Missouri.

Mr. A. C. VINAL
AMERICAN TELEPHONE AND TELEGRAPH COMPANY
New York, N. Y.

Mr. ALTON L. WELLS
GAS DEFENSE PLANT
Long Island City, New York.

TUESDAY — AFTERNOON SESSION

ORGANIZATION AND ADMINISTRATION

TUESDAY AFTERNOON, JUNE 3, 1919.

FIRST VICE-PRESIDENT KINCAID, *Presiding.*

PRESIDENT ROWE: Ladies and Gentlemen—I want to introduce your First Vice-President, Mr. W. W. Kincaid, President of The Spirella Co., Inc., of Niagara Falls, New York. (Applause.) He will preside with much more dignity than it would be possible for me to exhibit this afternoon, in connection with our dear friend from New York City, who is a fairly reliable man. The real show this afternoon is Dr. Lee Galloway, Chairman of the Committee on Organization and Administration.

VICE-PRESIDENT KINCAID (The Spirella Company, Inc): Ladies and gentlemen of The National Association of Corporation Schools—In introducing the speaker of the afternoon, who needs no introduction, because you all know him, I have just one or two reminiscent words to say. About six or eight years ago, some little time before this National Association of Corporation Schools was formed, I had the pleasure of meeting Dr. Galloway in New York, and for more than an hour he unburdened his heart. He told me how he felt that it was necessary to unite commercial education more closely with the actual requirements of business, and he recited to me at that time some of the methods and plans which he had in mind for carrying out this idea. Dr. Galloway's words have echoed in my mind this afternoon, in fact, they have been echoing and re-echoing ever since the time I refer to.

Something of Dr. Galloway's ideals and ambitions have been borne out in the organization of this association. One of the outcomes of that interview, so far as I am personally concerned, was to be drafted on his staff to come to New York and talk to the boys in New York University, in a practical way, about business organization. He said, "We don't want an academic talk, but put before the boys the actual experiences encountered in business and what they will have to meet."

This afternoon I have the proud distinction of introducing Dr.

Lee Galloway, Chairman of the Committee on Organization and Administration, who will present that report, and who, I am sure, will give us an excellent report.

Dr. Lee Galloway (New York University): Mr. Chairman, Ladies and Gentlemen—It gives me a great deal of pleasure to come before a meeting of this organization again.

The subject I am to present to you this afternoon is on employment management, and you might add to it a sub-title dealing with the position of the training department. This is a big and important subject, especially at this time, because of its bearing upon labor.

The position of the employment manager has many functions, and the influence of his actions are far-reaching, but up to the present time we have done nothing much more than talk in vague terms about employment management and personnel. No one seems to have a clean-cut conception of where the activities of the employment manager begins and ends—that is, is employment management more closely allied to the policy-determining body of the organization or to operating-body of the organization? At present we find men at the head of the training departments or employment departments having all sorts of relationships with the men higher up, and with the men beneath them. There seems to be no well-defined ideas as to just what their duties are.

American business men in this respect have been going along about the way that the British have been doing, as someone said, "just rocking along," and that puts me in mind of a story which perhaps some of you have heard recently of the colored mammy who had just received notice that she was to receive $10,000 as insurance from her son who was killed at the front. A newspaper man went to interview her and see what she was going to do with so much money. "Well," said she, "the first thing I am going to do is to buy one of those music machines, and, oh, boy, I am going to buy a pink kimono and boudoir cap, and a rocking chair, and put it on the porch, and then I will hire a boy to run that music machine, and I am going to rock, rock, just rock."

It seems to me we have been doing about the same way in the handling of our problems of employment. Managers of big concerns have had a legacy left them—the natural good will of this organization. The biggest asset in the organization is the personnel, if well organized, yet executives have sat back with their pink kimonos, and rocked, just rocked. But have we not got to a point where it is a little dangerous to rock without looking to see whether the chair is not moving towards the end of the porch! In England they have opened one eye at least and it looks as though the drug of complacency was lifting its spell. The new Whitby Council appointed there, which is to act as a sort of advisory council in labor matters to the House of Commons, amounts almost to a third branch of Parliament; in other words, the labor question has reached a point where it stands today on a par with what the question of taxation did in 1265. That date is one of the epoch-making dates in history of the evolution of Parliament. As we are today only just awakening to a realization of the industrial movements which are going on in the world, we may find that we are again about to inaugurate one of the greatest epoch-making movements in the world's history—a third house of Parliament, to deal with problems involving labor and capital.

It is a little more difficult to cut down a paper than it is to read one without having any limit put on its presentation, but I will try to keep within the prescribed time. I will not undertake to read the paper in its entirety, but give a hint here and there as to what the paper contains—in short, a "selling talk" to induce you to read it more fully at your convenience.

The purpose underlying the first part of the paper is to lay down the functions pertaining to employment management, thereby to judge the better its position in the organization by a comparison of its functions with the functions of other departments. That, I think, is the only safe and sane way to determine the place of any activity in an organization. The first step is the determination of its functions. If we find they are important, then to treat them as important. The organization chart will show how high they rank in authority and responsibility.

In any business organization you will find there are two big general functions. These we generally think of as the policy-determining functions, and the operating functions. Now, then, if any new activity arises in an organization, and it is desirable to place it, we should first decide whether it attaches itself fundamentally to policy or operation. With that idea in mind I have attempted here to define first, what is meant by business policy and to illustrate it, and then to state my idea of an operating activity and to illustrate that.

On page 166, then, I offer a chart which is intended simply to give in graphic form the ideas expressed on the pages preceding; in other words, a line drawn through the center of the page represents the dividing line between what I call the policy-determining functions and the operating functions of a business organization. Your big policy-determining functions show what and how things shall be done, and you pass these on in the form of rules and regulations to the operating department, with the general manager as the clearing house, and he passes them on through various channels into the production, finance, system and distribution departments. If we keep this chart in mind, it will be discovered that our employment management functions apply to both sections.

Now, perhaps I have been unhappy in the use of the word "employment management," because at present most organizations think of the employment manager as one who only hires the men, and with additional duties of looking after certain other subsidiary activities associated with hiring. Of course, there are a great many variations, but I do not know of any term which, in a general way, expresses what we all have in mind for covering the multifarious personnel or labor relationships so well as the term, employment management. I have given the term a large and inclusive meaning, and I am inclined to think it is also assumed that position of employment manager should be on a par with the responsibilities he assumes. A position covering broad policies as well as minor operations connected with training and the like.

Keeping these things in mind, you will find that employment management falls among the big policy-determining functions, such as dealing with relations as grow up between the firm and the trade unions, etc. Even the question of introducing an educational policy in an organization, that is, shall the company put in a training department, managed by a formal staff of instructors, or attempt to give information to employes through the medium of house organs, etc., or through the hundred and one ways which organizations use for getting information to the employes, or shall you conduct a formal training department? Such decisions fall within the policy-determining functions of the organization, and call for men of ability on a par with the men who determine the big financial operations of the organizations, or lay down the production policy and price policies for the year, they shall determine on that particular policy also. Just a glance at the complex questions of welfare work, of the wage systems of the company or corporation, that is, will the company adopt the piece rate system or not, suggests the further importance of the employment function. That places the employment management function above the line, as I have indicated here, and among the duties of the major executives.

We now pass to the operation side of the company, when you have decided on a policy of management with respect to your employes, then you adopt certain methods of procedure; that is, you hire teachers, adopt a system of records, and prepare to handle the many methods by which the relations with your employes are adjusted by securing definite information regarding them and their progress in the business. Such activities take us among the operating functions of the organization.

Then, in short, as the paper discloses, the policy-determining functions of your organization should be put in the hands of some man in the organization who is vitally concerned and connected with the policy of the organization. The president, the treasurer, the secretary are generally men connected with the ownership side of the business. They are vitally interested in the question of policies, and as a consequence they are made members of the board of directors, and members of the executive committee. They have proprietary interests in the organization, and are supposed to determine the big policies of the company.

Now, just as matters of finance, production, etc., have been so arranged as to be put into the hands of specialists, I am inclined to think that the interests of employment management, being so great, and so vital to the organization as a whole, are going to find their way in the future under the control of some man who will be responsible for the employment relationships of the organization as a whole. Then just as you have a financier in your organization, responsible for the financial policies of the organization, involving such matters as the issue of bonds or isssue of stock,. or getting extensions of credit at the banks, etc., the big things on which the financial success of the organization depends, we will have an employment specialist in charge of those matters, which require a man who is continually on the alert, studying the relationship between the organization and its personnel requirements.

Now, the reason we have not had such a man as that to consider our employment questions has been due to the ease with which we could just "rock along" by the use of expedients instead of handling our labor problems constructively. But it is no longer enough to put this matter in the hands of the general manager or of the superintendent, and rely upon what is called labor competition to keep the men at work and to regulate our employment activities in general. I do not think I need to rehearse the events that have happened in the last year or two to call up a picture with regard to the labor situation; such a picture is more or less in the background of every business man's thoughts today. It will be enough to state simply that the labor problem is becoming the greatest of all the problems connected with our system of management, no matter what that type of management may be.

So much, then, for that first chart, and the explanations connected with it. I wish I might take you all to school for an hour or more on the next chart. As Dr. Rowe said, I am a pedagogue, and a pedagogue is bound to show his colors, sooner or later, by trying to teach something. Of course, if he has the opportunity he is bound to impose his failing upon you. Now, then, I wish you would take that chart and examine it—if you do not have it with you, I wish you might get a copy of it and study it a little later on. I gave a good deal of thought to it, and it may help some of you to clarify your ideas as to the relationship of this employment proposition to what I call the great operating principle of administration. There is much in it, not because I say it, but because the operating principle of administration underlies the development of our modern industrial organization. It has affected, and is affecting, nearly every avenue of our business relationships.

What I have in mind, if I may just briefly run through this, would be that the biggest motive power in business today, and has been for the last century, we might say, is mass accomplishment; some call it mass production—yet I believe the term mass accomplishment is a little broader, because it covers administrative work, as well as the ordinary manufacturing element in a business enterprise. Americans when they travel abroad give the impression that they want to do everything in twenty minutes, and foreigners think that we are always in a great hurry. Such an attitude did not just happen because we were Americans, but because of our environment, because of the spirit that ran through all American business enterprise; mass accomplishment is the thing that has permeated all of our industry, and if you keep that one thing in mind it will help you to interpret what I have to say further.

Through the desire for mass accomplishment has come the operating principle of administration. That is, to decrease the unit of cost by increasing the number of units, under a comparatively stable overhead charge. That is our operating principle: the more product you produce under a steady overhead charge, the less it costs per unit. Now, that idea, whether you realize it or not, has been the guiding motive of the Carnegies, the Rockefellers, the Schwabs, and all of our great production men. Sometimes you criticise these men, because that is the only great thing they have done. It was Mr. Schwab who developed the idea of what he called the "parallel method of management," putting the record of one manager in one branch up against the record of another manager in another branch. That stimulates others, and it was developed with the idea of getting each man to exert more energy in production, thus advancing the interests of the organization, by decreasing the unit cost by increasing its output. That brought about a good many disagreeable things in American financial history, as you know, to make a favorable financial showing. Our railroads suffered under it for a number of years.

The operating principle of administration affects alike production, finance and distribution. In order to give expression to this principle, we find it works, as I have called it, through "factors of administration," the five m's of management—men, machines, materials, money and methods. That is, with the desire of mass accomplishment working through an organization of men, you find that there are certain effects produced. In working through the men, it brings about a division of labor and the need for specialization. In working through the machines it brings about standardization, and similarly, in working through materials it also brings about standardization. In working through money it brings about a differentiation of costs, and a differentiation of prices, and when it touches upon the methods employed in the organization, it produces what we have today already heard a great deal about, pre-planning and use of records.

Now, these primary effects have produced supplemental effects, that is, division of labor, for instance, has brought about a separation of the mental from the manual operations in industry and in departments. Similarly, we find the differentiation of costs has brought about "fixed" and "variable" costs. The differentiation of prices has brought about the "quantity price" and the "unit price," etc.

My idea in bringing this out is this—many of the problems raised in the last column on page 170 are familiar to you. Take the subject of "Obsolescence." No business man would think of leaving the determination of a policy with regard to obsolescence to the factory manager. He may ask his advice, but the big problem of obsolescence, and the attitude of the organization to it, would be considered by the executives of that concern. You all know how Mr. Carnegie held his treatment of this question to be one of the chief things in his earlier success; I have reference to the big competitive war, that finally resulted in placing him at the head of the greatest steel industry of our time. The principle which he worked upon, of course, was to scrap everything that was not up to date, so when the real fight came on—there was not, as a matter of fact, any fight, because he had predetermined the outcome of the fight with his competitors by his policy towards obsolescence—his plant and equipment were in prime condition, while the others were working under the old plan of skinning their plants in order to pay dividends.

Now take the subject of patents. Whether the corporation is going to turn out a new product every week or every year or every two years, is not to be left to the judgment of the factory manager. That is a big question that must be decided by the executives themselves. The same way in the allocation of costs; that is not one for your chief accountant to decide, although some of you may think it is. That is a bigger problem than the accountant is able to handle. As a rule allocation of costs means classification of accounts and classification of accounts means a comprehensive view of your whole organization, so you can bring about the correct analysis and correct classification. That cannot be done by a man who does not know the big ideas lying behind the organization before you, and there again you have a policy-determining factor.

And so I might go through the list of problems growing out of the differentiation of prices. These price-cutting policies have grown out of the same general attitude towards mass accomplishment. Likewise the problems of management. Are you going to have a coordinated control, and if so, under what type of management will it be—"military type" or "functional type"?

Now, then, having shown that these are all outgrowths of the same great principle which finds its expression through the activities of men, machines, materials, money, methods, and similar factors in your organization, let us see where the problem of employment management enters into the scheme. In the first place, we see a section devoted to the division of labor. The phenomena which shows here grew out of an attempt to increase the output and decrease the cost per unit. This brought about a fine distinction between the mental laborers and the manual laborers. In fact, it is this that has furnished the basis for all the discussions today in connection with scientific management, which is really nothing more than the attempt to adjust the principle of the division of labor to the administrative features of business organization. Following the chart divisions to the right you get the mental and manual divisions here which in turn have brought about the problems involved in the transference of ideas and the transference of skill. Analysis of this leads us to the primary ideas underlying employment training.

Now, if we will go back into the history of industry, it will be seen that the apprenticeship system answered the question of how ideas and skill were transferred through from one class or generation of men to another—seven years of apprenticeship, during which the apprentice pushed on from apprentice to the journeyman stage, and from the journeyman to the mastership stage. That was the method, but with the development of our industry, and the attempt to create lower cost per unit, through mass accomplishment, has come great complexity in our business organization and a consequent complication of the problem of the transference of ideas and transference of skill. The old apprenticeship system has broken down, even where it is still called the apprenticeship system; it is not the old type; it is a new thing under the old name, and our problem is to find means by which knowledge and skill can be conveyed from one man or class to another.

We have come to the problem of the solving of the question of the transference of ideas and transference of skill in our big industries. How are we going to organize our methods so that can be brought about with the greatest efficiency and highest amount of cooperation? You see that the transfer of ideas and transfer of skill are in the list of the big problems which industry must solve today, and that means you cannot solve those problems by putting them into second-rate hands, or throwing them on somebody else lower down in the organization than the men who have to determine the policies themselves. The business men are only fooling themselves if they think that they can keep "rocking along" in their ideas like a submarine. Sooner or later it must bring itself to the surface.

I have, then, on the organization plan, given a number of charts which are more or less of an illustrative nature, showing what has been done in a number of companies. This is an attempt to give you the practical side, and it discloses, I think, just what I have said, that there is no definite place for the employment department and the training department in the scheme of management as industries are organized today.

The diagram on page 174 gives the plan of a large engineering concern, which started its personnel work by putting at first only the executive employes under its charge, and another one, on page 175, shows how hit and miss the handling of the employes may be in securing employes for its organization—it is simply in the very first stages.

Then, beginning on page 177 and running through for a number of pages, is the description of a large engineering concern's employment department, and it will not be necessary for me to describe that. You will get the descriptions there covering a number of things such as labor turnover, the cause being given in one column, and the remedy in the other as this employment manager saw it in his organization. Whether you agree or disagree with all these things or not, I will say that they are not shown to you for the purpose of having your agreement or disagreement with them, but they are simply meant to show how the matter is handled in one organization, and that it may be suggestive only.

On page 187 you have a chart showing in detail the organization of a personnel department in a plant with from two thousand to four thousand male employes, and at this point I want to read a page in connection with the training department. As I said, the employment department, as a whole, should have some person interested in it who is of executive grade, say a vice-president of the organization. Then your training department, which is the operating end of your employment proposition, has the factory superintendent as operating head of the factory, and you must find someone who will handle the operating side of the personnel relations. Perhaps I can present to you this more briefly by reading from the paper.

(Dr. Galloway then read from the paragraph beginning "The Training Department" on page 186 to "rather than upon the ear," page 189.)

That brings us then to what we might say about visual training. A word or two upon that, as it will lead us to the discussion and then to the pictures. I presume the advantages of this instruction is not new to you, because you have all been influenced more or less by the newer methods of bringing instruction quickly to the minds of your employes, but how it has developed and the way it has developed is perhaps not realized by you all. (Dr. Galloway then read "The Committee does not consider," beginning on page 189, and ending, "the product can be demonstrated," on page 194.)

The paper gives some illustrations of this as they are used in connection with production and mechanical processes. (Dr. Galloway then read the matter beginning "Exposing the invisible," commencing on page 197, down to the end of paper on page 199.)

Now, I think it is time to turn the meeting over to some of the illustrations that will embrace at least one part of the paper, and I hope that some of you will have an opportunity and an inclination to read the first part of the paper. The whole question of employment management, I want to repeat, is one of the most important before the American business man at the present time. The troubles are just starting, and it is up to you men to present the methods of meeting these problems, of presenting things which will clear the problem as it now exists, and of presenting methods which will act as preventives in the future. If you men cannot do it, then what men can do it?

This organization has today the biggest opportunity now of any of its kind to do this work. If we do not seize the opportunity of tackling a subject worthy of the best men, some other organization is going to do it. At present we hold the strategical position. We have never lost sight of our original purpose from the time we started out to the present. Training lies at the bottom of any permanent success in management. If we are going to undertake any new experiments in management, they must have as their basis the elements of proper training. You cannot work an industrial democracy without training of the proper kind, any more than you can work a political democracy without the proper kind of training. It is not a thing of a day's growth or a week's growth, but it is a question of years and generations of growth, and it is up to us to start the thing on the right lines. We are in the same position with regard to industrial democracy that the Pilgrim fathers were when they landed on the shores of America proclaiming the new principle of representative government, which in turn developed into the democracy of the United States of America, and now through its championship of like principles applied internationally has put our country in the position of being the spokesman of the world for democracy. (Applause.)

REPORT OF COMMITTEE ON ORGANIZATION AND ADMINISTRATION

PLACE OF THE TRAINING DEPARTMENT IN MANAGEMENT AND A NEW METHOD OF TRAINING

Determining Factors in Organization Schemes.

The training department is a comparatively new addition to the long list of activities for which industry must provide a place in its scheme of organization and management. To deal lightly with such an important factor in the operation of a modern business, is to waste time and energy. Experience shows that the training of employes must hold a place of primary consideration and for that reason we believe its activities should be judged in the light of fundamental principles of business management.

Two factors control a department's position in a business organization, (1) its general functions; (2) its specific function which determines its relative importance in controlling or operating the business. The first factor determines a department's general position, the second fixes its place in the line of authority or its position in the sequence of operation. Take, for example, two departments, one dealing with coremaking in the foundry and the other with boring in the machine shop. These departments have general functional characteristics which put them at once in the operative end of the organization, but they also possess certain specific characteristics which puts them at different positions in the sequence of operation. That the management recognizes these distinctions is seen by analyzing any organization chart where the above activities exist. Here it will be seen that the foremen of these departments are on about the same level of authority since their influence upon the policies is about the same. The immediate operations are put under the control of bosses whose supervisory relations to each other and to their superiors are regulated by the fact that they act upon or start from the same level of authority. A recognition of this fundamental distinction leads to the consideration of the first step in logically placing a department within an organization scheme.

The First Step in Organization Classification.

The first step in building an organization is the classification of its activities according to their general functions. This method is simplified if it is recognized that a business enterprise involves the two general activities, (1) of determining and directing corporation policies, and (2) of supervising and operating the various divisions of production, accounting and sales. By dividing the business activities of a corporation into these two general functions the foundation is laid for a rational separation of the planners of policies, the supervisors and the doers—furnishing at the same time a scale by which the various types of authority may be measured or gauged. This is important since, by so doing, the basis is laid in any scheme of management by which the source of control and the direction of the flow of executive and supervisory orders are indicated automatically.

What Is a Business Policy?

A business policy is an accepted line of procedure by which the activities of an enterprise are adjusted to one another harmoniously and efficiently. The policy may embrace a minor group of related activities, or the activities of the organization as a whole.

A department, therefore, which concerns itself primarily with the adjustment of activities through the formulation of the rules or regulations and the laws of general procedure may be said to exercise functions pertaining to policy. But the words *rules* and *laws* at once suggest a difference in the relative importance of the two types of this function—rules and regulations may be determined by minor officials; the making of the general laws of procedure is the prerogative of the chief executives, and constitutes their chief function—they are the men who adjust the financial, the marketing, the labor and other activities which affects the organization as a whole, and their decisions on such points are dignified by the term general policies.

When Is an Activity an Operating Function?

An operating function is one which gets the work done either by directing an activity or by actually participating in any of the processes that makes the goods, provides the system of administrative control or carries out the necessary marketing and financing activities. With this distinction in mind it is very evident that the work of the superintendent of the factory, of the bookkeeper, or of the salesman would be classified automatically as an operating function of the organization.

A Chart Showing Distinction Between Policy and Operation.

The following chart illustrates graphically the border-line between the two general functions of policy determination and operation for results.

What Determines Whether a Department Shall be Above or Below the Line.

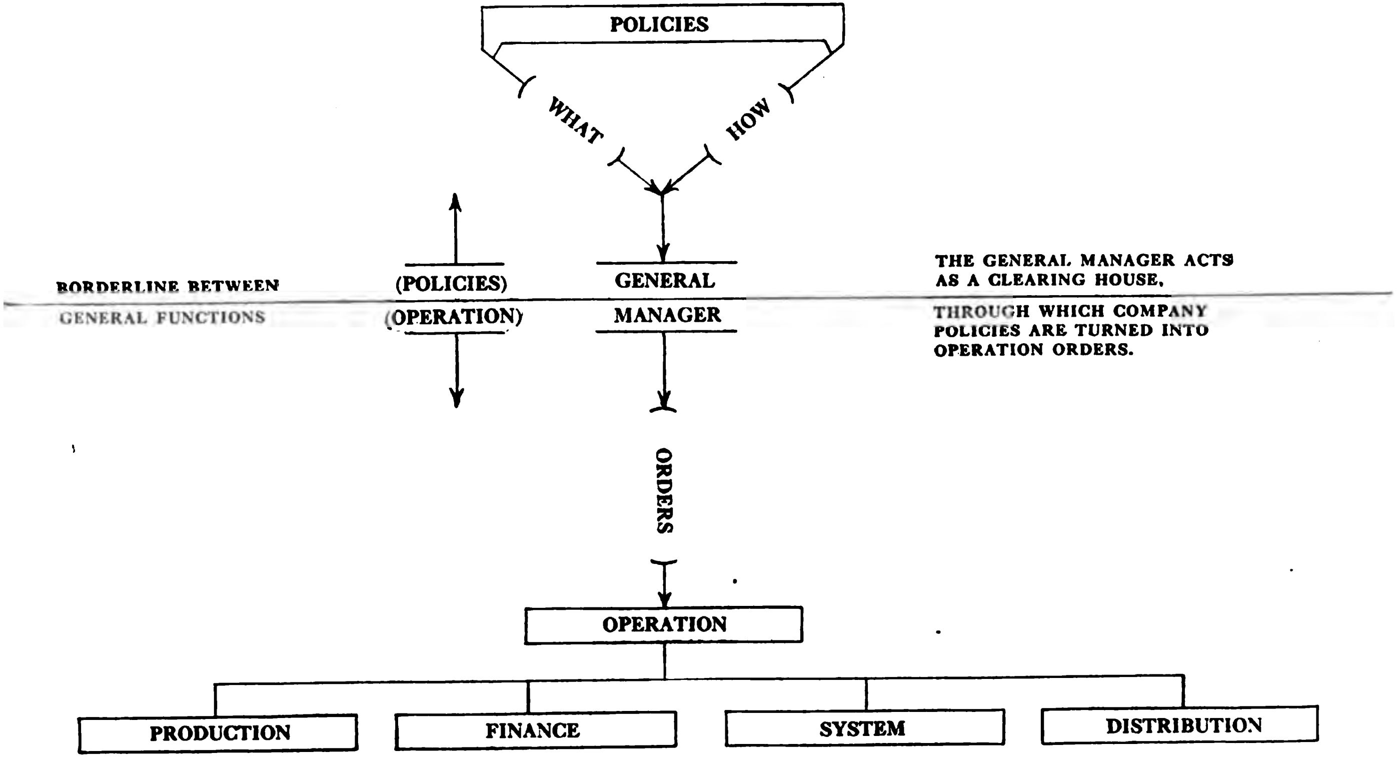
General policies are of two kinds: (1) Those pertaining to adjustments between the company and the public, and (2) those dealing with company activities as a whole, but lying within the organization.

The executive officers of a company must adjust their company activities to the activities of social groups which lie outside of the company organization. Dealing with the law-making bodies of the various governments, advertising methods to influence public opinion, handling labor difficulties through trades-unions, etc., are familiar examples of such adjustments which may be classed as primarily functions of the policy-determining body of a business organization, while such adjustments as those pertaining to prices, types of product, etc., show the type of activity that relate to the organization as a whole from the point of view of the second general policy. It would seem, therefore, that the first proof of the correct placement of any function within the policy determining body is to apply to it the test of social adjustment, while the second proof would rest upon its relation to the organization as a whole.

These two tests when applied to the functional part which employe-training holds in the organization should guide at once the particular activity to a position above or below the line which separates the policy and operation activities of a business.

Functional Test Applied to Employe Training.

Functional disturbances within an organization often disclose themselves; and tentative remedies are applied long before the


POLICIES
WHAT
HOW
BORDERLINE BETWEEN
GENERAL FUNCTIONS
(POLICIES)
(OPERATION)
GENERAL
MANAGER
THE GENERAL MANAGER ACTS
AS A CLEARING HOUSE,
THROUGH WHICH COMPANY
POLICIES ARE TURNED INTO
OPERATION ORDERS.
ORDERS
OPERATION
PRODUCTION
FINANCE
SYSTEM
DISTRIBUTION

administrators of policies have made a thorough analysis of conditions or placed the trouble in the right category by measuring the relative importance of the disturbance as a factor in the success or failure of the business.

This is the case in a large measure with the functional disturbances due to labor maladjustments. Arbitrary strikes have been met by arbitrary lockouts, arbitrary wage demands by arbitrary bonus systems; departmental inertia by standardized vacations and rest periods; errors and labor turnover and general inefficiency by suggestion systems, phenology and "ginger"—in short, the originators of policies have attempted to apply expedients to correct functional disturbances instead of studying the situation to discover the cause and then attacking the trouble at its root. How closely all of these disturbances are related to a central cause is little realized, and it is doubtful if it ever will be until the activities of an organization are judged in the light of their functional relation to the main spring of business motive in an enterprise.

In applying, therefore, the functional test to determine the importance of any new departmental activity, one must have in mind that the importance of an activity increases as it approaches the living central cord or motive principle which controls the life of every organization. There is in business, as in life itself, a primary purpose to which all functions must adapt themselves; some members are important, others less so, all depending upon the bearing which the functions of each has in carrying out this *primary* purpose to a successful issue. If we apply this test to a business organization we must first determine upon what the principle is which is most vital to its being. This, so far as the last generation is concerned and that of the present, may be summed up as the "operating principle of administration."

The Unit Cost Decreases as the Quantity Increases.

Few persons realize how thoroughly this principle has dominated the industrial policies and shaped the organizations of the past and present generations of business executives. But, in fact, it has been the open sesame whereby the doors of all executive chambers have been opened. A manager with a suggestion for decreasing the costs of production, lessening the overhead of administration or cutting the expense of distribution has always been received into consultation first, listened to first, and promoted first.

Such suggestions have always been considered as lying within the group of policy determination functions.

If we test the training of employes by referring it to the operating principle, we must show that its function is broad and important enough to be associated with that major group of activities which have been regarded as lying directly upon and affecting the unit cost in producing, administration and marketing of goods. The functional position of employe training must be tested by its bearing upon and its relation to the underlying principle of business operation.

Therefore to lay before us the leading considerations by which we must judge the functional position of the most recent of industrial activities that has risen to a place of urgent consideration let us view for a moment the close relationship which many of our major problems of industrial administration bear to the underlying force which has produced our present form of business organization and has developed the industrial basis known as *the operating principle of administration.*

FORCE IN SCIENCE; MASS IN INDUSTRY.

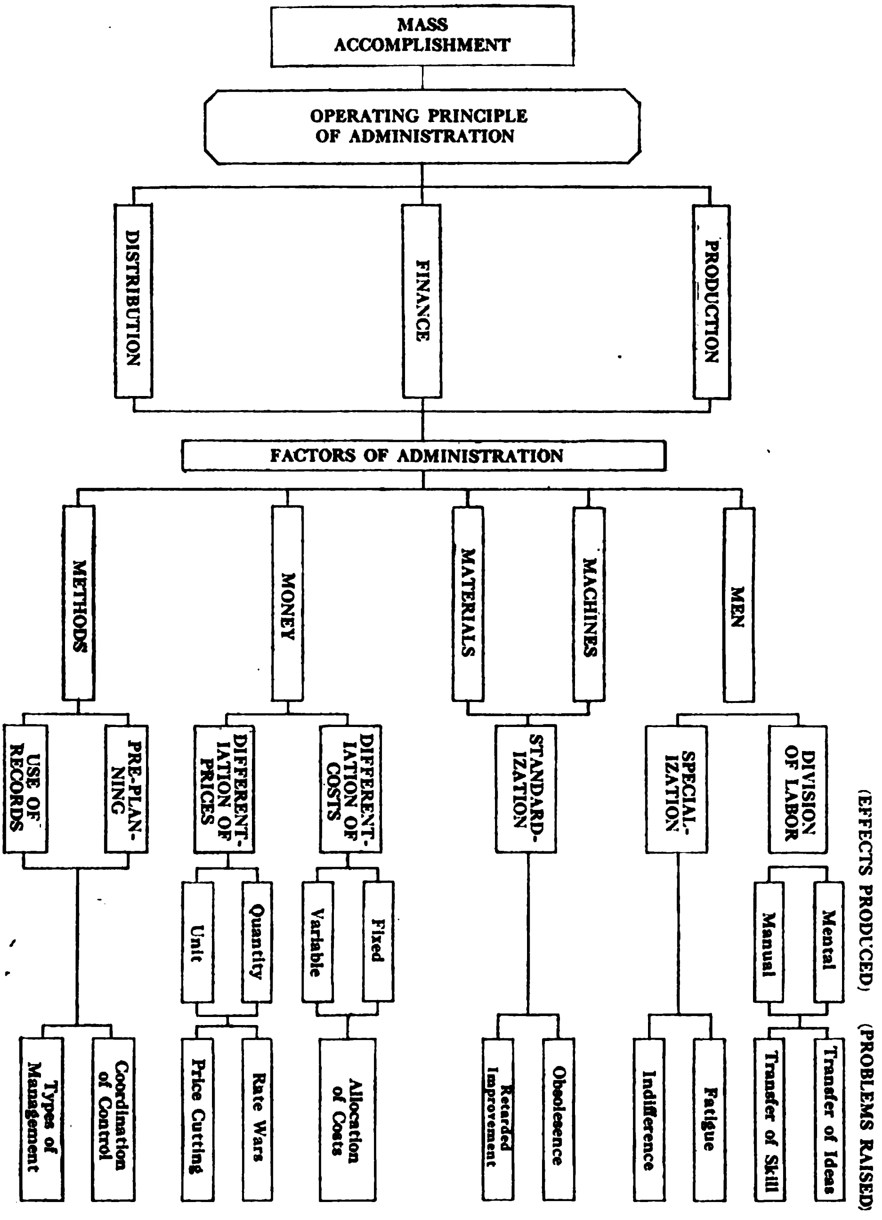
Force is the word which embraces the most fundamental concepts of the scientific world. It has, however, its counterparts in industry in the terms—mass production, bulk transportation, syndicated finance, large scale administration. To produce, to distribute, and to administer greater and ever greater masses of goods under a fixed overhead expense has driven industry for the past century through its various forms of organization and administrative policies to meet the problems which have naturally risen during the various periods of adjustment when the industry in its attempt to rise to ever higher and higher levels of accomplishment has been compelled to change its equipment, its systems or its administration methods. The center of pressure at present is in the field of employe relationship, but whether or not the managers of business enterprises should give the subject of employe-training a place of minor or major consideration in their plans and policies depends in large measure upon the effect this branch of employe relationship has upon the major or minor functions of an organization's activities. In short, do the problems arising from the present maladjustments of labor relationships rank in importance with those other problems which the policy-determining bodies of our corporations deem worthy of their constant attention. We may be aided to a clearer view of the case if we assemble a number of these problems and relate them to the parent cause. We may then observe the position these questions bear to the operating principle of administration and to the major policies of the administrative departments of every big business organization.

In the above chart it will be observed that the motive force, from an administrative point of view, is mass accomplishment working through the specialized business channels of production, finance and distribution. In attempting to reach the practical goal of highest profits the managers of the various business units have evolved a fundamental working principle, which has always been prominent in their policies and decisions, i. e., the principle that the unit cost decreases as the number of units increases under a relatively constant overhead charge. A discussion of this principle, showing its economic limitations, cannot be gone into here except to say that it is this principle to which executives always appeal when called upon to offer some economic justification for their activities or are asked to explain some of the results produced under pressure of large scale accomplishment.

The cardinal elements in any scheme with which the administrative policies must deal are indicated by the fine M's of management. In adjusting these elements to each other and to the general purpose of business enterprise a great number of changes have been produced in the nature of the elements themselves and in the way they have been applied to the processes of production, financing and distribution.

Examples of these changes are seen in the "division of labor" and the "intensification of work" as affecting the "man" element in business organization; while at the other end of the list stands the growing use of "records" and the use of "preplanned schedules" in business methods.

These changes, to be sure, could hardly be effected without causing many serious problems to arise. The problems of obsolescence and of cost allocation, for example, were not serious questions in business policies until the effects of standardization


MASS ACCOMPLISHMENT
OPERATING PRINCIPLE OF ADMINISTRATION
DISTRIBUTION
FINANCE
PRODUCTION
FACTORS OF ADMINISTRATION
METHODS
MONEY
MATERIALS
MACHINES
MEN
USE OF RECORDS
PRE-PLANNING
DIFFERENTIATION OF PRICES
DIFFERENTIATION OF COSTS
STANDARDIZATION
SPECIALIZATION
DIVISION OF LABOR
Unit
Quantity
Variable
Fixed
Manual
Mental
Types of Management
Coordination of Control
Price Cutting
Rate Wars
Allocation of Costs
Retarded Improvement
Obsolescence
Indifference
Fatigue
Transfer of Skill
Transfer of Ideas
(EFFECTS PRODUCED)
(PROBLEMS RAISED)

in "materials" and "machines," and the effects of "fixed" and "variable expenses" began to be felt as giant hands laid upon every organization; and sore experience proved that unless the pressure of this hand could be removed or the organization braced to sustain the pressure, calamity always followed. The solution of these problems, therefore, became the major objectives of administrative effort.

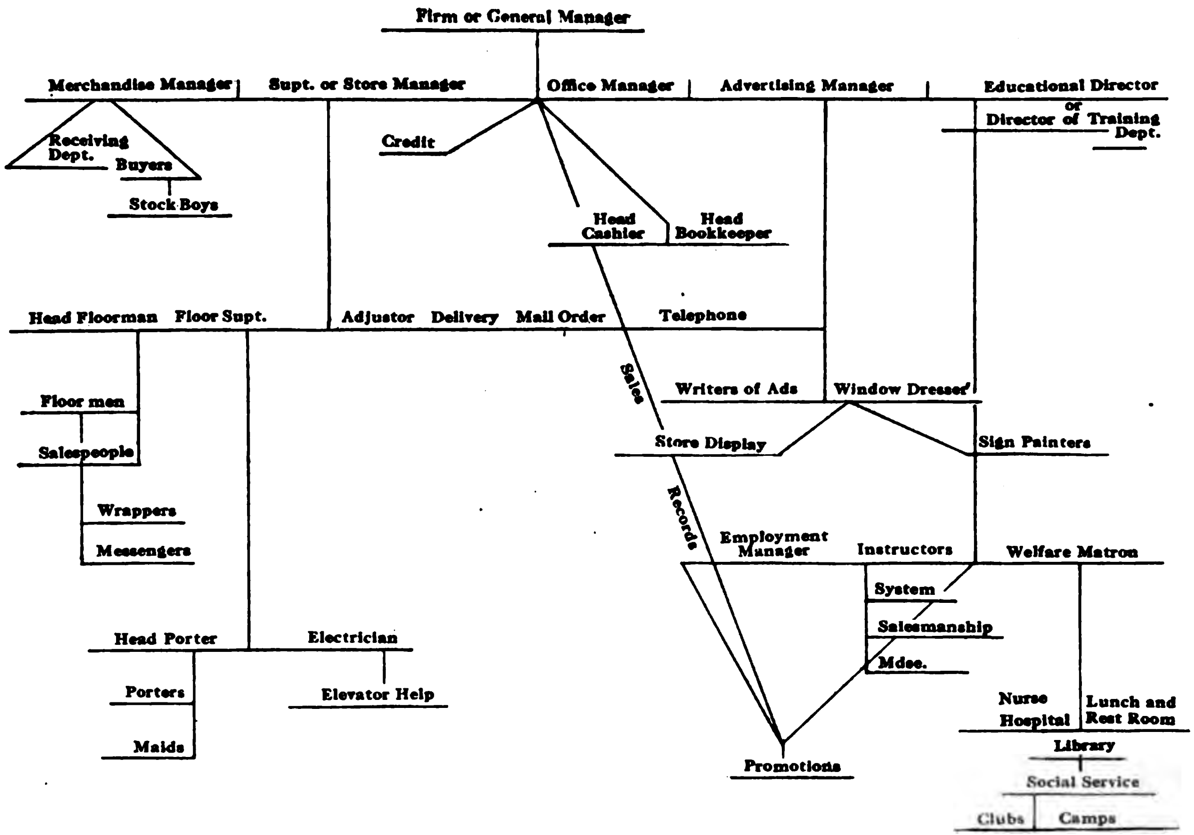
If this charted list of problems be examined it will be seen that few boards of directors would care to leave their solution to any other than executive ability of the first magnitude:

(a) Obsolescence.
(b) Handling of inventions and improvement in production.
(c) Allocation of costs; classification of accounts.
(d) Rate discriminations.
(e) Price fixing.
(f) Centralized or departmental supervision and control.
(g) Types of management (military, staff, functional, etc.).

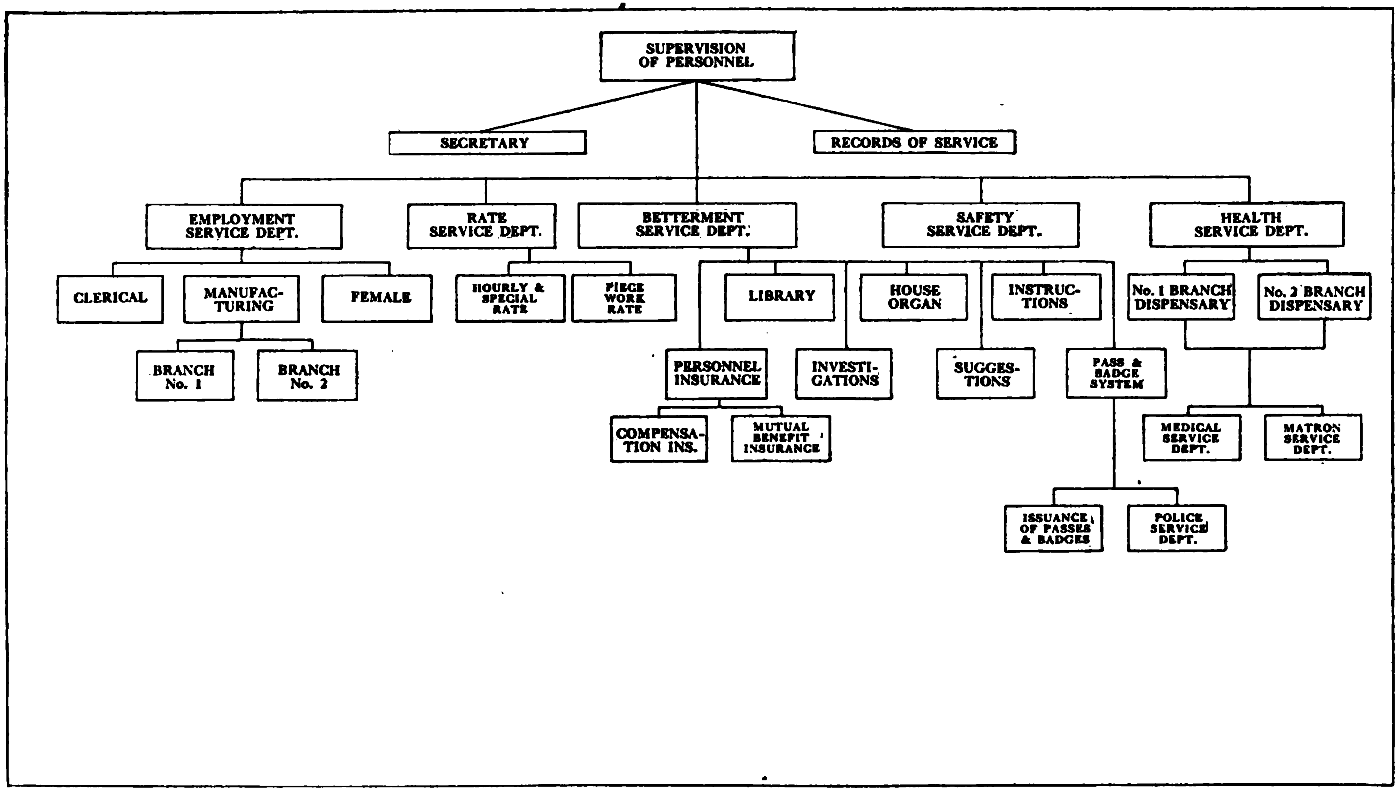
If now we compare the problems connected with labor which are pressing or even threatening the stability of business organizations with the above list of executive problems, it should not be difficult to see that the responsibility for their solution rests upon the shoulders of the chief executive authority. The utilization of men in the fulfilment of their functions as elements in the present business scheme seems at least to rank with questions involving stock and bond issues, location of plants or the appropriation of an advertising campaign. By studying the above chart it will be further observed that the problems which have arisen because of the division of labor into finer and ever finer distinctions between mental and manual work, are all fundamentally attached to the same underlying desire to produce on a large scale. These problems cannot be solved by such expedients as the experience of a shop foreman or a superintendent may be able to suggest. The highly complex problems involving the "transfer of skill" or the "transfer of ideas" calls for the attention of specialists in the field of employe training. The problems of fatigue, lack of interest, lack of responsibility and the like demands the judgment of persons trained in the handling of men from the point of view of psychology and economics rather than men who are highly efficient in the practical application of the law of reduction of unit costs.

It is not deemed necessary to go farther in citing problems, for, if there were no others than those connected with the "transfer of skill and ideas," and the problems of "fatigue" and employe "irresponsibility," the case would be proved by showing that grave policies of administration were involved. If in addition we consider the manifold employment problems that grow out of the interaction of men with the other administrative elements of machines, methods, etc., and producing the problems of labor turnover, strikes, sabotage and the like we feel justified in putting the determination of employment policies under the continuous consideration of an executive officer with the rank at least of a vice-president. Such an officer would of necessity keep the broad interests of the corporation within his perspective, neither neglecting the social nor the purely operative points of view. This officer would propound policies before the executive bodies of the corporation with the same freedom and authority as the treasurer would discuss his problem of finance or the comptroller his question of organization and system, or the general manager his problems of production and sales.

That a specialized department of executive grade has not been developed generally for the consideration of labor relations is largely due to a non-realization of the close relationship that exists between the various parts of this problem. Wage systems have been thought of as separate from job analysis, welfare work or profit-sharing; selection of employes has been carried on without thought of its bearing upon the development of understudies, adaptability to environment or special fitness for the work to be done. Labor-union policies have been adopted without due consideration of their effects upon the internal administration of employe relationships which may have a bearing upon the firm or upon themselves; educational schemes have been devised with slight consideration of the close connection between the training to be given and the methods of promotion, compensation, and labor turnover. But the truth is gradually forcing itself upon the attention of the corporations that these problems are all interrelated, and that the only insurance against serious ruptures is the adoption of a method by which all these activities may be carried on under a common administrative policy.



Here is presented the organization chart of a large department store showing the relation of the personnel department to the other four main departments.



A large engineering concern which started its personnel work by putting at first only the selection of employes under its charge.

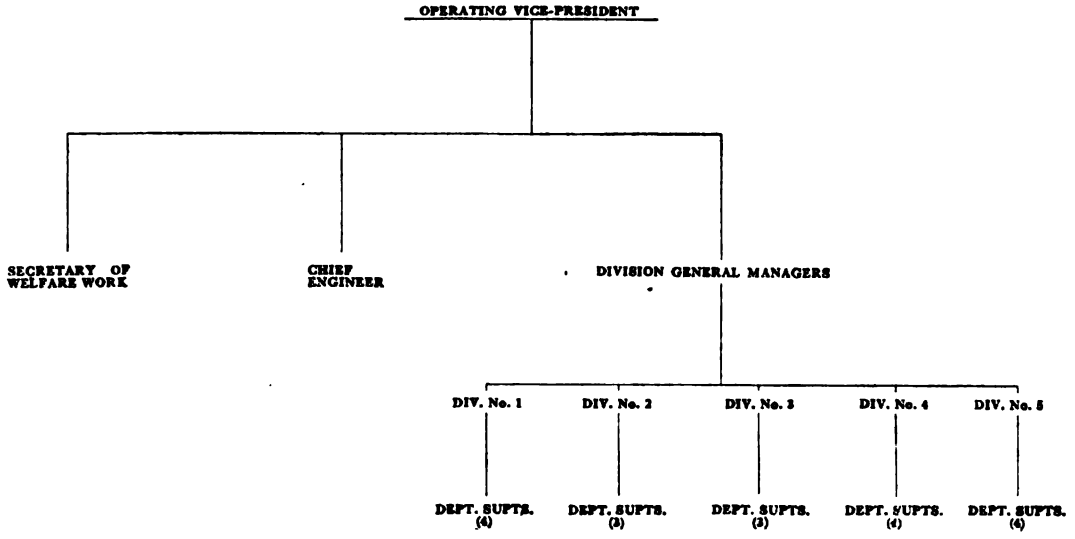


Chart showing position of secretary of Employes Benefit Committee. This company is just starting its investigation into the wider fields of personnel relations The company relies largely upon outside professional employment agencies for its employe selection.

A Supervisor of Employe Relationships.

But the choice of the proper executive authority for the formulation of labor policies is only one-half the problem. The problem of a correct division of employment functions and the constitution of the proper supervising authority from an operating point of view still remains.

So far as the personnel relations of employes is concerned, the work of selection, training, rewarding, promotion and the like may well be put under a *superintendent of personnel* who would be on a level of authority with the factory superintendent or some similar head of a department controlling an important group of operative functions. The details of such a position would involve the adoption of efficient methods for training the various groups of employes, the provision of the proper records, etc. The production of a proper esprit de corps, to mention only one product of a well-organized personnel department, is quite as important as producing a smooth manufacturing layout by which lost mechanical motion is eliminated. The superintendent of production is generally thought of as indispensable—why not the superintendent of personnel relations? That the tendency is toward this goal is evidenced by the importance which is gradually being attached to the department of personnel relations. The following charts will show the present organization status of this function as viewed by several representative firms where the question has been given serious consideration.

"We have no employment manager within our own organization," says our informant, "although some consideration has been given to the establishment of a general employment department. If there should be appointed a supervisor for the Company on employment work, he would undoubtedly occupy a position of approximate equality with that of the Secretary of Welfare Work, as shown by the attached chart.

"The Secretary of Welfare Work in charge of Pensions and Disability Benefits reports direct to the Operating Vice-President, and, to this extent, is on a par with the Chief Engineer and the General Managers. He corresponds directly with the Department Superintendents throughout the field, taking up with the Division General Managers only important questions of a general nature. This procedure eliminates "red tape" and saves time.

"If there were further appointments for each Division, the man appointed would report to the Division General Manager (thus, as relating to lines of organization, being on a par with the Department Superintendents), but correspond with the Secretary of Welfare Work on the technical phases of the work."

Personnel Organization.

Layout of a typical Personnel Organization for an Industrial Plant having 5,000 or more employes.

In smaller organizations, two or more heads can be combined in one, but the work described here should not be lost sight of.

Assistant Manager
Personnel
Superintendent

1. Employment
2. Educational
3. Training
4. Welfare
5. Safety
6. Hospital
7. Community
8. Transfers
9. Clearance

NOTE.—The Personnel Department's chief aim is to place every employe in the most advantageous position, and have every position filled by the person best fitted to fill it, then to see that both parties get a square deal. To reduce labor turnover, to keep the physical and mental condition of the workers so that everyone will be on the job every hour of every day, and as contented and efficient as possible all the time.

1. *Employment Department.*

Duties: To interview and hire *every* employe. To advertise for help and to use all legitimate channels for procuring labor when needed. To keep complete and accurate records of employes. To keep well posted on labor requirements, internal and external, labor laws and fluctuations. To keep posted on prevailing rates, both national and local. To cooperate particularly with the Shop, Educational, Training, Community, Transfers and Clearance Departments.

The proper selection of human material is as important as that of materials for manufacture, and all possible attention should be paid to that selection. Competent employment clerks should be used as interviewers, people who know the job for which a new employe is required. They must be courteous, yet firm, and not easily moved by their sympathies.

Labor turnover is the great factor to be avoided or held down by the employment man. Below are causes of labor turnover and some remedies for these. There are many variations to these headings, but the ones mentioned cover the field pretty well.

CAUSE	REMEDY
1. *They are Fired.*	
a. Arbitrarily through whim of foreman.	a. Deprive foremen of right to discharge. Train better foremen.
b. Because of incompetency.	b. More care in hiring. Train or help incompetent.
c. Because of insubordination.	c. Train foremen to be more tactful.
d. Because they can't get along with the other workmen.	d. Maintain clearing-house for labor between departments.
2. *They are Laid Off.*	
a. Because scheduling of work is faulty—not uniform.	a. Standardize rate of production. Better scheduling.
b. Because of dull seasons.	b. Study ways to eliminate dull seasons. Develop a fill-in product.
3. *They Quit Voluntarily Because of*	
a. Low wages.	a. Train them to better jobs.
b. Long hours.	b. Shorter hours with pay on basis of output.
c. Inequalities in pay.	c. Square deal of management.
d. Fancied wrongs.	d. Better man-to-man supervision.
e. Unsafe or unsanitary working conditions.	e. Welfare, health, safety work.
f. A dislike for the kind of work.	f. Select jobs to which men are fitted. Train them to better jobs. Maintain a clearing-house between departments.
g. Wanderlust.	g. Pension plans. Home owning plans. Profit-sharing and stock-selling arrangements.
h. Inability to get along with fellow-workers.	h. Maintain clearing-house for labor between departments. Group nationalities. Wise choice of boss.
i. Plentiful jobs in time of prosperity.	i. Home-owning plans. Profit-sharing and stock-selling arrangements.
j. The plant is hard to get to: 1. Takes long time. 2. Additional carfare.	j. More study in original choice of location.
k. Unsatisfactory living conditions in the plant's neighborhood or town.	k. Home-owning plans. Cooperative stores. Betterment work.
l. Inability to see anything ahead.	l. Avoid waste of ambitious men. Tell them what opportunities there are.

The Employment Office should have an atmosphere of welcome to the newcomer, since the first impression of a place is lasting. If a new employe is impressed with the idea that this is a more pleasing place to work than any other he has seen, that surely will help in making a better employe of him, and of course help the Company.

Every one should receive very courteous treatment here, their requests listened to patiently, regardless of business rush. By doing this, many good prospects may be discovered, who because of poor approach are not good salesmen, and therefore do not show their qualifications readily. On the other hand, the four-flusher will be more likely to show himself in the true light if given enough rope.

But the main idea is to give every applicant for a job a good impression of the place, so that if hired they will have more confidence in their employer, and if not they will at least take away with them that good impression.

2. *Educational Department.*

Duties: Examine all applicants for apprenticeship, prepare texts, outline courses, lectures, arrange for special lectures and courses given by outsiders, maintain close relationship with other corporation schools, with The National Association of Corporation Schools, with the Bureau of Education, Department of the Interior, in Washington, and with the local schools. To look after the boy problems, both inside and outside the shop, to teach women tracers, etc., to pay special attention to toolmakers and machinists apprentice courses and the development of young men to become expert mechanics and executives. To maintain a bureau of information for employes in general by means of books, records and statistics, also by the employment of a corps of competent instructors.

To maintain thoroughly up-to-date schools for boys as well as adults, where trades can be well taught; to maintain good relationship with other schools of similar nature so as to benefit by their experiences and yet help them improve, if possible, by giving them knowledge of what we are doing.

The broader education is, the more are benefited by it. By helping the other fellow, you help yourself.

3. *Training Department.*

Duties: To train men and women to become operators at production; to retrain those being transferred, or those formerly misplaced; to train adjusters, inspectors and special operators, as, for instance, those operating tool-room equipment. To instill loyalty, responsibility, and patriotic ideals in the employes; to further Americanization by close personal contact and congenial relations while training, to arrange special lectures to foremen and groups of employes. To keep adequate records of employes, so as to assist in promotions, and the Personnel Department in the proper placing of every worker.

The majority of new employes go through this department immediately after being hired, then it is very important that the impression made on them should be as favorable as possible. Thoroughness, Cleanliness, Order, Responsibility, Safety and Opportunity are the outstanding factors of the Training Department, and the employe must be as strongly impressed with these as possible in order to practice these qualities later in the works. The employe must be made to feel that he can go back to the Training Department for assistance and information concerning his job, whether it be of technical or personal nature. An eye is kept on all employes even after they have left the school.

4. *Welfare Department.*

Duties: To extend a helping hand to every employe who needs it, either by giving advice or by more substantial means. This department should welcome all those who have a "Burden to unload," whether imaginary or not, to be able to help them forget those troubles and by so doing, not only make them content, but also more efficient.

"Get together" problems, entertainments, sports, etc., should all be taken care of here. Once or more each week, there should be a band concert at noon to bring the employes together. Entertainments should be frequent for the same reason. Sport clubs should be organized and encouraged by proper activities usually carried on in a well-organized welfare department.

The main object of this department is to keep the employes contented and happy, to make them feel that the management is interested in their welfare, and is ever ready to help them in their troubles.

The Mutual Benefit Association should be guided and directed from this department.

In so far as possible, materials used in the works should be sold to employes upon request; this to include kindling wood, coal and other commodities, especially when they are difficult to obtain elsewhere.

While this department may be called upon to do much emergency work, such as Red Cross and other organization fund drives, the main purposes of the department should never be sacrificed or slackened in any way. The extra duties should be performed by additional office force, so as not to interfere in any way with the regular routine work.

5. *Safety Department.*

Duties: This department must devise and apply safety devices to machines and dangerous places, post danger signs and signals, post safety bulletins, arrange for lectures on safety and sanitation, look after proper sanitation and cleanliness of factory, machines and workers, must also see that workers wear safe and sane apparel while at work.

A safety committee whose membership is large enough to cover the plant adequately must meet and report often to this department. The head of the department must keep in close touch with the Hospital to know the number, nature and cause of all accidents, so as to obviate common causes and others as much as possible.

This department must be given the authority to enforce rules of safety throughout the plant, both as regards departments or individuals.

Charts should be made to show at a glance what accidents occur and their numbers, what departments have most accidents and their causes. These charts to be posted in a conspicuous place in the department headquarters.

6. *Hospital.*

Duties: Here all injuries received in the plant must be treated, and as many minor troubles from outside causes taken care of as possible, also to reduce labor turnover. Indirectly, of course, this medical assistance has a humanitarian aspect as well.

Another object is to reduce liabilities of accidents becoming more serious by infection, leading to long illnesses and loss of limb, and to keep compensations down to a minimum.

Compensation laws must be well understood and interpreted here.

Complete and exact records must be kept of all injuries treated and compensations paid. Charts should be made to show at a glance the number of cases treated and their causes, to serve as a guide for the sanitary and safety engineers.

Competent nurses must always be in attendance and a physician always subject to call if not already on the premises.

The physician should be called upon to lecture to groups of employes periodically, to promote better health, or preservation of health.

An automobile should be set aside for hospital use only, to take seriously injured persons to hospitals or incapacitated ones to their homes, also to fetch patients to the shop hospital from their homes for redressings.

7. *Community Department.*

Duties: To look after the employes' interests outside the works, in problems of housing, rooming, boarding, transportation to and from work, saving, public recreation and health, and all other matters of community service.

The labor turnover of a plant is greatly increased by poor transportation, poor housing, etc., and also the efficiency of the worker is impaired by injured health and poor mental attitude, so that the cost of maintaining a department such as this is easily made up and is a good investment when the returns are considered.

This department should also strive to help the individual and his family along the following lines:

1. Community work in general.
2. The family relations.
3. The house.
4. The making of Americans.
5. The relation between the people and the land.
6. Citizenship.
7. Health preservation.
8. Protection of life and property.
9. Development of business.

10. Government aids to business.
11. Transportation and communication.
12. Saving and waste.
13. Knowledge and education.
14. Beautifying surroundings.
15. Religious requirements.
16. Community progress.
17. Government—self-government.
18. Government, city, state, national.
19. Government, expenses, taxes, etc.

While it is not intended to expect this department to attend to all and to the minute details of all the above headings, yet it is well to have someone whose general knowledge of these things is sufficient to enable him to give competent advice to those who need it, and to guide activities along the lines here drawn.

8. *Transfer Department.*

Duties: Labor turnover is divided into two main groups, internal and ultimate. Both are expensive. Ultimate turnover is the most expensive and wasteful, and should be held down to as small a figure as possible. One way of lessening ultimate turnover is to transfer from one department to another.

A balanced personnel is secured by a systematic method of transfers, that is, employes in a department where they are not needed should be immediately transferred to other departments where they may be urgently needed.

This department should be informed every day of the condition of the work, whether all employes are busy or not. If not, how long the depression is likely to last. On the other hand, departments temporarily overloaded with work should make their wants known here so that a balance of workers may be maintained. Often a foreman will refrain from hiring more help because he knows that his rush will be of short duration. Then, he may receive just the assistance he needs from the Transfer Department.

Records of transfers and the standing of employes involved should be carefully kept. This will enable the department to lend valuable assistance to the shop in general when a demand is made for an employe with special qualifications.

Close cooperation between this department and the Employment, Training and Shop Departments is essential, all should dovetail closely.

Positively no transfers should be made except through this department.

9. *Clearance Department.*

Duties: Every employe about to leave, or who has been dismissed by a foreman in the works, must be interviewed in this department. The interviewer must be diplomatic, must understand human nature, and be competent in the work done by the employe under consideration.

Bearing in mind the necessity of holding down labor turnover, the employe must be retained if possible. If dismissed, however, the case must be investigated, to discover the reasons and a record made of same. Charts must be made to show the relative turnover in various departments in order to avoid having some foreman abusing his privileges, and dismissing employes indiscriminately.

On the other hand, if employes are leaving of their own accord, in large numbers, the reasons for this must be known and the proper remedies applied.

If an employe must go, all the final details should be taken care of in the Clearance Department. These details include tool clearance, cancellation of pass, return of badge, identification cards and other property of the Company. If such property is not returned, then deductions must be made from the wages still due the employe. Such wages as are due should not be handed over to the employe by the paymaster, but rather by this department. This is very important, because the departing employe should leave with a favorable impression. Often a worker leaves a plant under cold and heartless circumstances, with the result that he swears he will never return there again, and, moreover, he will use all his influence to prevent others from coming, too.

On the other hand, if the employe departs with a handshake and good wishes, he will be more apt to return, and besides will not prevent others from coming here. This is very important if the man in question is a good one and is influential with others. This feature is too often lost sight of and is a serious drawback for the Employment Department.

As a final word in connection with the PERSONNEL ORGANIZATION, it is well to give it all the importance due it. The management must recognize it as an important factor since Labor is the GREAT POWER in this and other civilized countries. In any plant, the closest and most congenial contact between Labor and the Personnel Department will help greatly in maintaining harmony and keeping the worker and the employer contented.

Frequent conferences of the various heads of the department grouped under Personnel will produce good results. Each head should keep fairly well posted on the doings of the others, so that each will be helped by the rest.

The Training Department.

A study of the various organizations belonging to The National Association of Corporation Schools will show that only a few of them have given the question of training employes the full consideration it deserves. The reason for this is quite evident although seldom expressed. The reason is this: There are difficulties in the way of introducing a thorough-going department of training which do not attach to the single functions of hiring, of wage-adjustment, of medical service, and the like; changes and modifications in these activities can be made effective without serious interference with other activities. Training, however, touches the very heart of the employe relations of every kind. Corporations hesitate, therefore, to institute any new activity which may make these relationships any more unsettled than they are at present; for training creates greater efficiency, but it also stimulates ambition for promotion; training develops the employe's interest in his work, but it also awakens a desire to know the next job as well; training creates the spirit to investigate one's own job, but it also awakens a curiosity concerning the balance sheet; training promotes loyalty to the firm, but it likewise stimulates a patriotic prejudice against unjust usurpations of the best positions by unworthy persons; training develops greater skill, but at the same time it opens the employe's mind to any disparity between his own growing capacity and that of his boss; training increases the employe's appreciation of his employer's efforts to promote the welfare of the organization, but it induces him also to measure his own influence in the determination of affairs (no matter how trivial) against the arbitrary commands of his superior. In short, when one sets out to liber-

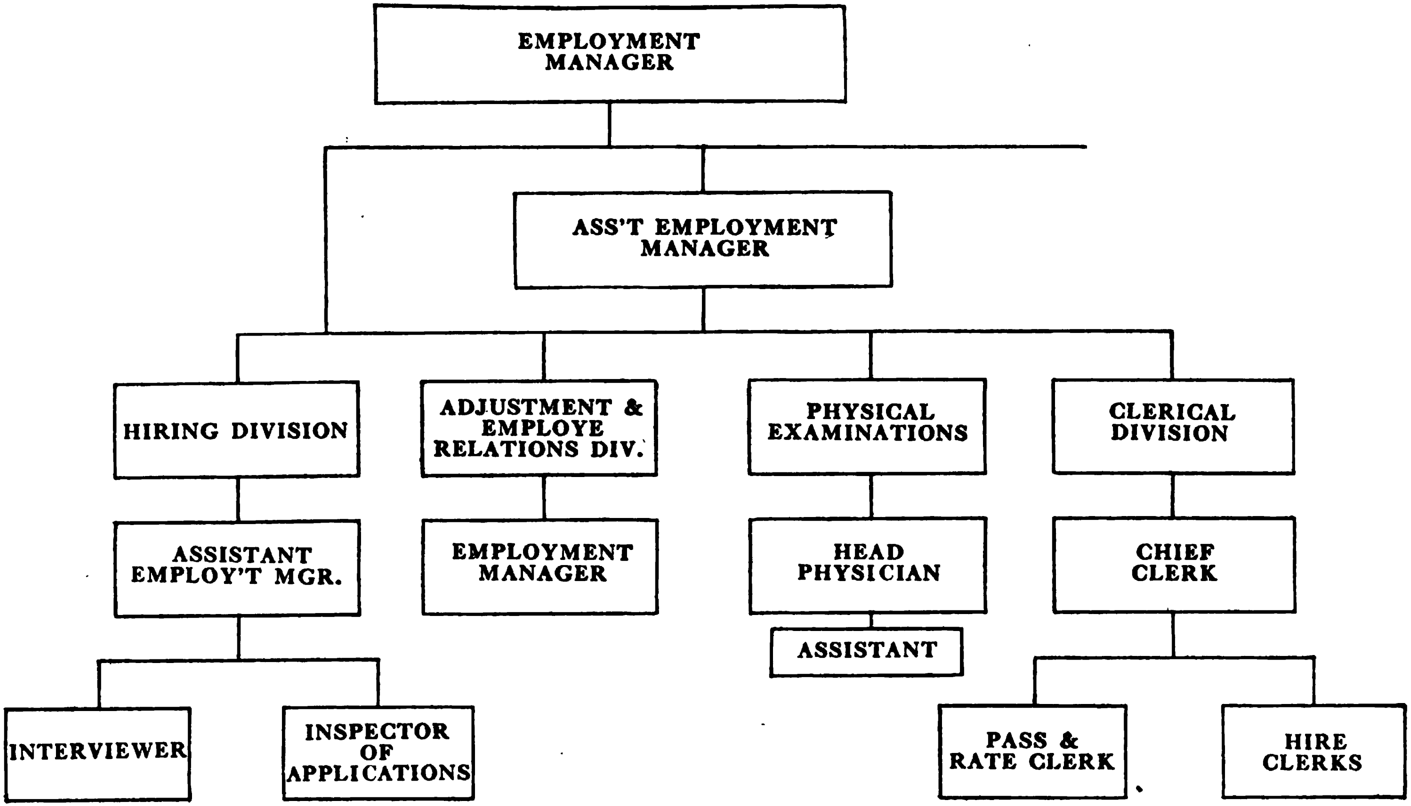


Chart showing in detail the organization of a Personnel Department in a plant with 2,000 to 4,000 male employes.

ate power he must provide the means for its control and direction. The power of initiative which may develop a new process, a better method or an improved system for the firm may, under improper control, inaugurate a strike or invent new ways for soldiering. The increased labor power liberated through the use of improved machinery, the surplus energy which better working conditions liberate, and which the welfare work cultivates and the medical service conserves, is likely to be wasted unless the proper employe training accompanies the work of these splendid departments. Intellectual appreciation must accompany all improvements, whether they be in the way of better machinery, better working conditions, or better moral environment. Training must keep pace with job analysis, it must follow close on the heels of welfare work, and suggestion systems and be closely tied in with the manuals of procedure, holidays, safety devices, insurance methods and wage systems. In fact so long as public opinion, which, in the case of business corporations, is employe opinion, is a fundamental and a controlling element in business organization and management, some means must be provided for adequate publicity and information involving company policies and operating details. The training department must provide this publicity and develop the proper public opinion among employes by which our production, our exchange and our distribution are carried on. When Americans adopted a democratic form of government, they predicated its success on the establishment of the common school, freedom of speech and an untrammeled press. They did not rest content with an education that ceased with the common school, the high school or the college, but upon the "continuation school" provided by a free flow of information through free speech, a free and ubiquitous press. Now that Americans are modifying their theory of business management by the introduction of the democratic principle into the administration of their industrial plants it is well that they profit by the experience of their forefathers in political democracy and provide for both the fundamental and the continuous training of the employes. The economic organization no less than the political organization of the nation must be guided and supported by the intelligent decision of its constituency. This means that industries must provide the system by which business, economic, industrial information is not only collected and distributed generally but they must see to it that this information is continuously and systematically presented to the individual employe. Industrial democracy, unlike its political prototype, depends not so much on obtaining greater freedom of speech and a free press as it needs the continuous guidance of the employes while at their every-day work in which a free road to the goal of a "square deal" and the path of opportunity are always open. Industrial training, as The National Association of Corporation Schools interprets these words, means something more than the presentation of facts in a formal way in a "school." Training, as we know it, embraces all means by which employes are informed, instructed or drilled in matters pertaining to their jobs, to their fellow-employes or to company policies. Under this interpretation, training includes the house organ, departmental manuals, job analysis, the breaking in of new employes, recreation, health instruction, safety appliance rules, and a hundred and one other things pertaining to materials, machines and the public, a knowledge of which, on the part of the employe, vitally affects the efficiency and service of the organization. That the correlation of all this work calls for a man of high organizing abilities needs little argument. Likewise it is evident that the methods for training employes must be adapted to the special work in hand. Without going into a discussion of the comparative advantages of any of the well-known methods, such as the class-room method, the correspondence-school method, continuation-school method, the functional-foreman method, and the like, we will confine ourselves to a brief consideration of the present very popular means of instruction which depends upon pictures rather than words—upon the eye rather than upon the ear.

The committee does not consider it necessary to pass upon the comparative pedagogical value of instruction based on ideas conveyed through pictures, as against instruction based on the printed page or lectures. The power to gain knowledge from the printed page is one of the highest accomplishments yet attained by the human race, and any attempt to supplant the three R's in the education program in the public schools would be quickly resented, but business houses and factories have a special and somewhat different purpose in view. There are still millions of men and women who cannot read and write, and many millions more who do read and write only with great difficulty. Industry cannot wait upon the slow educational process of providing these people with the tools of knowledge, so managers are experimenting with a more primitive method of conveying information through pictures. Just as picture writing preceded the alphabet, the movie and the stereopticon now comes as an aid to those industries which must instruct its employes before they can read intelligently.

Visual Instruction.

Visualizing is the process of changing the form of a thought from the words in which it is heard or read, or from the elements of imagination from which it is constructed within the mind, into a picture that can be seen "in the mind's eye."

The instructor who seeks to impart knowledge of any kind faces the major difficulties: Concentration, visualization and memory.

(1) Students must first *concentrate* their minds upon that which they are hearing or reading, so that they will receive no other conflicting impressions at the same time. (2) They must *visualize* each of the facts imparted, and (3) they must *remember* all of these facts, because knowledge consists only of that which is retained by the memory.

Any method of instruction which provides for the preparation and presentation of facts in such a way as to produce naturally greater concentration in the minds of the students; and make a deeper and more lasting impression is worthy of careful consideration.

The eye is quicker than the ear, and the eye remembers what the ear forgets; in this sense, reading is very much the same as hearing.

While some forms of knowledge may not lend themselves readily to previsualization, it is a fact that much practical knowledge covering a wide range of commercial subjects has been successfully imparted in visualized form, by means of ordinary moving pictures.

Until recently, moving pictures have been limited in their scope for instruction purposes. The camera, like the eye, could only see and record that which is external or naturally visible.

Now, however, the film corporation offers a patented method for producing animated mechanical and technical drawings and moving charts, on practically any subject—external, internal, visible, invisible, real or imaginary.

By this means the motion-picture screen serves as the mind's eye upon which pre-visualized knowledge may be projected, and from there absorbed directly, quickly and uniformly by all who see it.

The Department of Labor has placed on record the opinion that the motion picture shortened the war by at least two months. Most of us are familiar with the public use of the cinema by the Agricultural Department, by the Committee on Public Information and in the Liberty Loan drives. But now that the curtain of censorship has been lifted, it is possible to reveal to the American business man the strides that have been made privately in the motion picture as a means of instruction and demonstration, under the stimulus of the demands of the Army and Navy.

Most of us have known the motion picture merely as a toy, as a means of amusement. It has no more than occasionally occurred to us how effectively it might be used as a medium of instruction, appealing as it does to both the intellect and the emotion.

Furthermore, as an instrument for instructing large masses it has obvious advantages. The motion picture is a means of mass communication far greater in its scope than the printing press, since words at best are but symbols and require to be learned, while pictures are more universal in their meaning; to child and savage and savant alike there is much in common. That seeing is believing is an adage. "I See" is synonymous with "I understand." When Edison invented the cinematograph, the tangle dating from Babel was undone.

But it is not merely illiteracy and the confusion of languages that the motion picture brushes aside. It also fills deficiencies in imagination—the least perceptive minds and the blankest brained may thus come before the screen on a level, in many respects, with the most imaginative.

As all know, the late war was largely a war of machinery, with its ultimate ideal of a flame projector or rapid firer in every fighter's hand. Depth bombs, steam shovels, machine guns, etc., had to be understood and operated almost in myriads. So the need for men was too great to be made up of mechanical geniuses alone.

When the draft contingents came to the camps and the colleges, the Government faced the task of making competent operatives out of the rawest material. Complex mechanism—costly—must be comprehended and used effectively by recruits like the lone mountaineers of Kentucky and the herders of Wyoming, men who never had handled appliances of a complicated nature.

Like so many things which the war tried out and left as a valuable heritage to industry the use of moving pictures left its contribution. At that time, one of the inventors of the animated cartoons, J. R. Bray, was experimenting with motion pictured mechanical drawings. He had already obtained patents on processes which made it possible to put draftsman's sketches in movement, and was beginning to market such pictures for the instruction of salesmen and for use in industrial schools. It occurred to him to suggest their use by the Government.

Very soon student groups in officers' training camps were taken into halls equipped for projection, to be shown "moving x-rays" of the hand grenade, the operating interior of the machine gun and cross sections of cannon in the act of firing, and many other kindred subjects.

The motion picture is now recognized as a utility available for business use. That the amusement people have seized on it for entertainment purposes is due largely to its originating from a toy, rather than to any superior suitability for such purposes as compared to business uses. In fact, the motion picture is more effective when devoted to truth than when it serves fiction. It is popularly admitted that photography is proof that "seeing is believing."

There was a time, which all of us easily remember, when printing for business purposes was used to a negligible extent. To-day, business literature is of the greatest industrial importance and virtually all successful corporations are making wide use, in many fields, of printed matter such as trade papers, catalogs and the like.

The utility of pictures for communicating ideas has always been universally recognized. The first ancient writing was picture writing, on the walls of cliffs and caves. The modern catalog must be full of pictures to be effective. To the universal explicitness of photographs, motion pictures add the life of movement, and the control of attention, these three advantages are the keynotes.

Mr. Arthur Brisbane, who is considered to know just what words are capable of, says that one picture tells more than 10,000 words. There are 16,000 pictures in a single reel of film which can be shown to an audience of any size, complete in twelve minutes.

At present, the business uses of motion pictures fall into two main groups, (1) to increase production, (2) to increase sales. In production, its uses are principally confined to (a) Training Employes in their work, (b) Industrial Morale, (c) Scientific Investigation, (d) Safety. The selling uses of motion pictures are those of demonstration and those of advertising. These are closely associated, and, in fact, more or less include each other.

Task instruction films, by which the transfer of skill is greatly facilitated, show in visualized detail the working principles of any mechanical appliance and clearly, simply, and unmistakably the operations of the most complex parts. By their use, it is possible to make great speed in preparing green labor for skilled operations or training men to new work in reconstruction changes.

Motion pictures provide the display, for observation and discussion, of any action perfectly performed—and then all desirable results which can follow. They provide the display for exposition and warning of any error of whatever kind—free from any attendant undesirable results therefrom, such as damage or danger. One effort, one cost, unlimited repetition.

In activities involving industrial morale, motion pictures are used for propaganda purposes, teaching the value of unity, right living and prudent conduct—or showing the benefits of house policies. For example, "Safety First" films present with dramatic power the errors and accidents of the factory and the poverty and woe that follow.

Scientific industrial research utilizes the motion picture for securing progressive photographs that record permanently for magnified projection, chemical, physical or bacteriological occurrences, especially those beyond the scope of the investigator's eye, *i.e.*, microscopic or occurring too quickly to be perceived.

For example, pictures were recently taken at the rate of one hundred and twenty-eight photographs per second of the destruction of an oil circuit breaker. One of the big electrical companies has been troubled by this lightning-like and ultra minute trouble maker. It has troubled the electrical world for years. Only motion pictures and ultra-rapid photography could detect what actually occurred.

Motion pictures for sales purposes are used (a) by salesmen carrying a portable projector which will throw the sales story on any wall, and (b) by dealers who exhibit them in their stores or arrange for group showings in nearby theatres. For example, one manufacturer of washing machines sends his salesmen with picture shows into the kitchens. The offer to show movies on the wall gets immediate interest and frequently the housewife calls her neighbors in.

Advertising films are circulated through the photoplay distribution system, when they have sufficient entertainment value to permit. Otherwise they are supplied to the Young Men's Christian Association, to schools, to churches and lodges, or other organizations having auditoriums and valuing such pictures for their informational contents. Also they are supplied to dealers, who arrange to show them in the neighborhood theatres, in connection with newspaper publicity.

Motion pictures can reproduce almost every selling effect. With titles they combine whatever power may be put into carefully chosen word statements and most of whatever lure there may be in seeing the article. Whatever prestige effect that may come from displaying the size and character of the factory can also be gained. Every merit possessed by the material can be shown, including all details of their origin and all tests to which they are put in selection.

Every value that any manufacturing process may contribute to quality can be shown in one sitting. All uses to which the product is suitable can be exhibited. Especially desirable features of operation can be emphasized, and every inconvenience or costly result from failing to use the product can be demonstrated.

Rapid exposition, uniformly intelligible, of the most complex electrical mechanisms, has been achieved, including picturization of many things never before seen except in the mind's eye. In the farthest present development these pictures begin with an ordinary exterior photograph which fades into an exposed interior and changes into a skeleton cross-section.

One unit at a time is built up. Each part is shown separately, first still and then in operation. Any part superfluous for a movement may be eliminated, to be brought back again when required. Each part functions independently or in association.

Photographic reality alternates on the screen with the technical drawings, one fades into the other. Electrical forces are visualized for the unimaginative. Explosions are delayed until they are viewed as a progression, seen through the open side of the gun.

All standard possible faults of operation may be exposed, and their results, however dire, shown plainly and repeatedly without danger. Once filmed, disaster and destruction may be repeatedly reproduced within a hall without danger. Darkness, except on the screen, excludes all distraction. Subjects are played and removed from the scene at will. There is no difficulty of crowding or craning. Everybody can see what is exhibited; no one can see anything else.

By such means it takes little time to turn raw recruits into efficient operators of expensive and delicate machines. Before intricate instruments are touched, the theory on which they work may be well understood. Men of simple minds and small vocabularies come to "see how it works" very quickly. From that point it is a short step to the proficiency that comes with manual familiarity. Many who are lost by the spoken lecture can spell out a few words at a time on the screen. And the visual impression is lasting.

The motion picture makes it possible to overcome both time and space. These are two comprehensive works.

By "overcome time" is meant that motion pictures permit us to reproduce on any number of occasions whatever may be out of reach because it happened in the past. We can reproduce to-day what happened yesterday, or years ago. Just as we have the deceased Harold Lockwood performing to-night in the theatres, the lamented Colonel Roosevelt in vigorous animation on to-day's screen—just so we can easily put into permanent form and project whatever will occur to-day in any business and which may not occur again to-morrow.

Equally well what is to occur in the future can be shown now. There is no difficulty, when a crew of construction men start a job, in exhibiting swiftly to their eyes, by animated technical drawings, the completion of a bridge or skyscraper they are about to erect, and it can be done by showing a beam and a bolt at a time so that the men have a perfect idea of what they are about to build with the correct place of each man and every part vividly in mind before they start.

By "overcoming space" is meant that it is possible to project on any wall, in any office or projection room, having moving pictures, of anything however big or however distant. For instance, factories, explosions, satisfied users, foreign branches, raw materials, plantation or any desirable spot of the globe, however far away or however difficult to reach, may all be brought into one small room, in a single afternoon.

The atmosphere of the North Pole or the Equator can be taken into any room without discomfort. Chemical processes can be observed without inhaling the fumes. Dynamite can be exploded without danger. Savage men and savage animals may be looked in the eye with safety.

However difficult and however expensive it may be to assemble a set of peculiar circumstance necessary to demonstrate or prove anything, these circumstances can be reproduced times without end, by the motion picture, with only the one cost to pay.

Not only can the motion picture put before an employe or a sales prospect all that the eye can observe without respect to time or place, but also, with great success for the invisible can be made real.

What was said heretofore, in connection with research work, should be considered also from a factory training and sales point of view.

The motion picture can expose the invisible. By use of the delaying process it can exhibit plainly those movements which occur too swiftly for the eye to perceive. It can overcome all these disadvantages which result in the common phrase. "Please do it over again, slow." For example the path of a pitched ball which will not bend except when it is thrown too swiftly to be seen can be watched to creep through its curvature in pictures.

Briefly then expressed the function of motion pictures in business is reproduction. They have the power to bring before the eye any event which it is desirable for others to see and understand.

Instruction Possibilities.

Exposing the *In*visible, showing, by means of animated mechanical drawings or artificial motion pictures the condition or action existing or taking place out of sight where it cannot be seen or photographed, as in the concealed operating parts of machinery.

Visualizing the *Un*visible, showing by means of animated symbols the existence and movements of things which have no visible appearance, such as sound waves, electricity, gas, gasoline vapor, compressed air, and steam. These things can be shown at work in such a way that their performance will be plain and easily understood.

Slowing Down Swift and Instantaneous Occurrences.—Rapid movements of machinery or skilled workers can be shown taking place so slowly in projection that the detailed operations can be studied and understood. There are two ways to do this: One is to make a "Speed o" picture at the rate of one hundred and twenty-eight pictures per second, or eight times as fast as a normal motion picture (sixteen pictures per second), and the other is to make animated technical drawings of such movements as are too fast for the Speed o process, such as the discharge of firearms, operation of electricity, etc.

Concentration.—Absolute concentration is maintained at a motion picture projection in a dark room even from the most vacillating mind and the lowest order of intelligence, because the lighted screen automatically attracts the attention, and there is nothing else to look at and nothing else to be seen. This is a great advantage in giving instruction under any circumstances. It is the only known way to escape distraction due to the presence of other students, surrounding movements, objects of interest additional to that being explained or demonstrated, etc.

Condensation and Elimination.—Visual instruction by natural and artificial motion pictures in demonstration can be very much simplified by eliminating the superfluous and non-essential elements and thus condensing or shortening the time required for a given amount of instruction.

This may be illustrated by considering the demonstration of a lathe in a machine shop where all other apparatus and surrounding paraphernalia are eliminated and nothing is shown except the parts of the lathe required to hold the piece of metal or wood being worked and the various points (inside and out) of the work that require instruction. Of these essential features only enough is shown to convey the desired understanding and then the next step is submitted on the screen.

Universal Language.—Pictures can be understood by anyone regardless of their native tongue. Foreigners that only understand a little English can easily manage to read the simple titles where they would be hopelessly lost in an oral lecture. This is the same principle that brings picturized instruction to the lowest level of intelligence.

Lowering the Training Hurdle.—Many employes are rejected by training schools or training departments of business because they have not enough ability to successfully absorb the instructions given and pass the necessary examination. Many applicants who fail to survive this training period actually have sufficient intelligence and ability to do the day's work for which they are trained, because it takes more intelligence and ability to learn a given job than it does to perform it, once learned. Visual training methods reverse this operation and make it easier to learn the job than perform it, thus enlarging the potential labor supply for a given occupation.

Combination of Real and Artificial (Pen) Photography.—The uses of the animated technical drawing are not confined to showing it by itself. Negatives of actual photographs can be combined with other negatives of animated technical drawings and printed in a single film, so that the natural and artificial will appear together or in alternation, which identicalizes the basis while analyzing the detail.

Safety First.—When an accident occurs everybody is more careful for the time being, but they eventually slip back into their old ways when nothing has gone wrong for a long time. By means of safety first pictures "horrible examples" may be produced without danger to life or limb and they can be projected before the workers at sufficient intervals to insure continued caution.

Uniformity of Preservation.—No instructor ever repeats a lecture exactly word for word. Modifications creep in that may gradually change the whole complexion of his method. No two people put exactly the same construction on the same words even when heard or read at the same time. Visual instruction films tell their story exactly the same way, and leave in all minds exactly the same standardized understanding every time they are used. This understanding being the result of seeing is more permanent than any knowledge obtained by hearing or reading.

Progressive, Cumulative Demonstration.—Instead of showing the whole machine at once and calling attention to each important part of it, the best method is to show one part at a time until the unit is built up; then add other units progressively until the cumulative effect has been completed and the machine or operation has been shown in full.

Enlargement.—One of the natural advantages of photography for instruction purposes is the fact that anything can be reproduced in its original form many times magnified. A familiar use of this is the "close-up" which also impels concentration.

Permanence of Record.—Animated technical drawings are valuable permanent records of the objects they present, and may be retained indefinitely for reference even after they have passed out of active use. An operation that has been discarded upon the adoption of a superior one can be shown to some future member of the organization who thinks the old is better than the new, etc.

Amendments.—Training films can easily be amended at any time. Ineffective presentation may be strengthened by substituting new parts for old; useless or incorrect parts may be cut out, corrections inserted and additions made, from time to time, so unlike a text-book which must be discarded when it becomes obsolete, training films can be kept up to the minute.

How the moving picture method may be adapted to office training where many employes must be broken in continually is illustrated by the following scenario.

THE RECEIVING AND INDEX DEPARTMENT

SUB.: Every application for Life Insurance in the company comes to the Receiving and Index Department, before the Policy is issued, to be checked against existing records, if any, regarding each applicant.

Scene 1.—Photographic Panorama of the Receiving and Index Department.

SUB.: There are nearly four million record cards in this file.

Scene 2.—Close-up of main file.

SUB.: For every holder of an Insurance Policy, there is a white policy card like this:

Scene 3.—Drawing of enlarged blank policy card. Fade in (one at a time with insert titles) name, date of birth, present place of residence, policy number and amount.

SUB.: If the Assured has more than one policy the others also appear thus:

Scene 4.—Same as completed Scene 3. Fade in two more policy numbers and amounts, one at a time.

SUB.: If a policy has been cancelled, the reason is entered.

Scene 5.—Same as Scene 3. Fade in "Ferf" in middle column. Insert title "Forfeited." After title, Mr. Doe has not kept up his payments.

SUB.: All Life Insurance Companies report every applicant who is physically impaired to a Central Medical Index Bureau which gives the Equitable a white impairment card on each, like this:

Scene 6.—Drawing of printed impairment card showing name and occupation only. Fade in code notations, one at a time, of a typical case of impairment. Insert titles interpreting each as they appear. After Title: Mr. Doe will probably have trouble getting his insurance.

SUB.: The Receiving and Index Department gets an Application for an Insurance Policy.

Scene 7.—Desk side of Receiving and Index Department. Messenger boy enters with an Application, and lays it on receiving desk. Receiving Clerk looks the papers over, and stamps them with time stamp.

SUB.: The exact time of arrival is stamped on the application.

Scene 8.—Close-up of time stamp impression.

SUB.: The day of the month goes on in large figures.

Scene 9.—Receiving Clerk stamps day of month. Cut in close-up of large date on paper. Receiving Clerk then passes Application papers to Tabulating Clerk.

SUB.: The Tabulating Clerk enters the number of applications received (one in this case), and the total amount of the insurance.

Scene 10.—Tabulating Clerk enters the count of applications (one) and the amount of the Policy. Cut in close-up of tabulation sheet showing headings and this one entry.

SUB.: Other applications are entered in various quantities, in lots as received.

Scene 11.—Close-up of tabulation sheet, with one entry, as before. Fade in Scene 3 in the count column, then $15,000 in the amount column. Then two more entries, with different quantities and different amounts.

After Title: The number of applications and the total amount of insurance are added up at the end of the day.

Sub.: The Tabulating Clerk passes the Application to the Assembling Clerk.

Scene 12.—Tabulation Clerk passes papers to Assembling Clerk.

Sub.: The Assembling Clerk arranges the papers in convenient order for future handling.

Scene 13.—Assembling Clerk takes papers apart, rearranges and clips them together. Passes them to next desk.

Sub.: The "Red Name" Clerk scrutinizes the Application, especially the signature of the Applicant, to make sure that all the writing is correct and legible.

Scene 14.—Close-up of the Application. Finger points to signature.

Sub.: The Red Name Clerk next inspects the Medical Examination Sheet attached, and compares the Applicant's name with the signature on the Application.

Scene 15.—Close-up of the Medical Examination sheet. Finger points to name of Applicant. Fade out, and fade in application with finger still pointing to the name.

Sub.: Illegible signature or hasty examination of applications lead to errors in copy and future trouble.

Scene 16.—Close-up of application with illegible signature. Insert title "Red Name Clerk Must Decipher this Correctly."

Sub.: The important facts are summarized on a third sheet, called an Abstract, which is placed on top.

Scene 17.—Close-up of Abstract. Finger points to name. Fade out and fade in Application with finger still pointing to name.

Sub.: Red Name Clerk hands the inspected and verified papers to typist.

Scene 18.—Red Name Clerk hands papers to typist.

Sub.: Typist makes out a blue Temporary card, with special care to copy the name correctly.

Scene 19.—Drawing of plain shaded card. Fade in date of receipt, name of applicant, and the date of his birth, one at a time with inserted titles.

Sub.: Typist also makes out large yellow Central card, to show the course of the Application by steps.

Scene 20.—Drawing of Control card, with data appearing, one item at a time. Insert titles, designate each item as it appears. After Title:

The Control cards are sent to the Medical Department and we have nothing more to do with them.

Sub.: Typist hands Application, with blue Temporary card attached, to File Clerk, and puts Control card in outgoing mail basket.

Scene 21.—Typist hands papers to next desk, and throws Control card in the basket.

Sub.: The File Clerk finds the proper alphabetical place for the applicant's name in the filing cabinet.

Scene 22.—File Clerk goes to cabinet and points to designation card on the outside of drawer. Close-up of designation card. Fade in close-up of Temporary card clipped to papers.

Sub.: The exact alphabetical position is found among the cards in the drawer.

Scene 23.—File Clerk picks her way among the cards to the proper spot. Close-up of Guide Cards. Close-up of cards in front and behind the right place for the Temporary card.

Sub.: The spelling of different names is sometimes the same in the first few letters. *Exact* alphabetical position is determined by the first letter that differs, thus:

Scene 24.—Drawing of several policy cards, one on top of another, with only the name lines showing. The names are in close alphabetical order with the determination letter underscored. Guide cards show at top and bottom. Insert title "Letters Determining Alphabetical Position." Pointer moves under each name, from left to right, stopping and circling the determining letter before proceeding to the next name.

Sub.: Look for the misplaced card.

Scene 25.—Same as Scene 22, but with one card cut out of place. Pointer points it out. Insert title "It Belongs Here." Pointer moves back and forth in proper place. Fade cutout of wrong place into correct position. After Title: A card even so slightly misplaced is practically lost, among four million others, possibly costing the company thousands of dollars.

Sub.: Often there are several cards for different people with exactly the same name. These are arranged according to birth date.

Scene 26.—Three white policy cards, with same names, arranged to show different birth dates. Earliest date on top. Pointer indicates one after another.

Sub.: Many people with the same last name have different first names or middle initials. Exact alphabetical position is determined thus:

Scene 27.—Three white policy cards, with same last name and different first names arranged in alphabetical order with names only showing. Pointer indicates governing first name or middle initial determining alphabetical position.

SUB.: The blue temporary card is filed in its proper place, "Riding the Red" with upper edge exposed.

Scene 28.—The clerk places card in drawer, "Riding the Red." Close-up showing the edger-exposed. After Title: Later on, a different File Clerk, with the same Application, inspects the blue temporary card, to make sure it is correctly filed, and pushes it down on the red even with the others.

SUB.: When filing a blue temporary card, the file clerk may come upon one or more different cards, bearing the same name, already in file. One of those is the Salmon color "Red Letter" or Warning card.

Scene 29.—Drawing (shaded) of Red Letter card, bearing typical information. Insert title stating its significance. After Title: Appropriate comment.

SUB.: Another possibility is the yellow "Incomplete" card, showing that a medical examination or an application with the same name is being held in the Medical Department.

Scene 30.—Drawing (shaded) of two typical yellow "Incomplete" cards, one stamped "Appl. Held at Med. Desk" and the other stamped "Exam. Held at Med. Desk." Pointer moves from left to right under the stamp impressions on each.

SUB.: Some delated cases are so peculiar that a special white Suspense card is made and filed, pending investigation.

Scene 31.—Drawing of typical Suspense card. Insert title explaining significance of data thereon.

SUB.: The Medical Index Bureau in Boston (M. I. B.) sends the Equitable white printed impairment cards on all cases of physical impairment of applicants, no matter what Insurance Company discovers them.

Scene 32.—Close-up of Medical Index Bureau Card.

SUB.: When filing a blue temporary card, the nature and contents of any card with the same name, found in file, is written on the abstract.

Scene 33.—File Clerk inserts Temporary card in drawer, finds a card with the name. Close-up of both cards. File Clerk copies data from second card on to abstract. Close-up of Abstract with data inserted, indicated by pointing finger. After Title: This enables the Company to be on its guard against a bad risk.

SUB.: All of the cards, except the blue temporary cards, come from other Departments in quantities. They are sorted in alphabetical order, by the firm letters of the names.

Scene 34.—Bundles of cards are dumped on Sorting desk by Messenger boy. Sorting Clerk distributes them in alphabetical compartments of sorting box. Close-up of sorting box, with letters of the alphabet pasted on the edges of the compartments. Cards are being thrown into proper compartments, slowly.

Sub.: File Clerks put the cards in the cabinets, in correct alphabetical order.

Scene 35.—Several File Clerks gather around the Sorting box. Each takes a batch of cards from a different compartment and proceeds to the proper place at the cabinet. They are seen filing the cards.

Sub.: The white Policy cards will replace in the file all other cards bearing the same names. These others are then destroyed.

Scene 36.—Group of cards: Blue Temporary Card. Red Letter Card, M. I. B. Card, Yellow Incomplete Card, White Suspense Card, Superceded White Policy Card showing fewer policies. Insert title under each.

Sub.: Being of no further use, they are torn lengthwise and filed on the floor.

Scene 37.—Panorama view of floor at 4 P.M. with torn cards of all kinds strewn plentifully around.

VICE-PRESIDENT KINCAID: Mr. Jamison Handy, Vice-President of the Bray Studios, Inc., of New York City, will now show some motion pictures to illustrate some of the points which Dr. Galloway has presented, and I am sure that we shall all be much interested in these pictures.

MR. JAMISON HANDY (Bray Studios, Inc.): Mr. Chairman, Ladies and Gentlemen—In selecting pictures to illustrate the points that Dr. Galloway touches upon in that second part of his paper which is devoted to visual instruction, we have chosen principally the motion pictures which have been used for military purposes during the war, pictures which were constructed to explain various military operations. A great secret chapter was written in this field of instruction during the last few months of the progress of the war, in fact, in making some hundreds of such instruction pictures, we have reached some very far boundaries in the extensive use of pictures for the purposes of explanation. The pictures which we are to show this afternoon are solely motion pictures of the invisible. Each of them is representative of a great group of similar pictures. We give pictures of this nature alone, because it will be very easy for you to see in your minds the other groups, on my merely mentioning them.

Pictures as first made for military instruction were pictures of those things which we can see—pictures of the school of the soldier, of the school of the squad, the school of the company, illustrating the various drill formations, telling the military students, by marking the men with numbers, what the exact position of man No. 1, No. 2, No. 3, No. 4, was in any formation; pictures of rifle firing, showing all the standard faults of operation which the student would be likely to commit, which might interfere with the effectiveness of his fire, or which might deprive him of his instrument entirely, by ruining it. We had pictures, on the other hand, showing him how to do each thing most swiftly and in the best way. We have similar pictures of the operation of semaphores, and in fact, of all of those military operations which we had to teach thoroughly and reliably to a great mass of men.

Now, such pictures as those are easy for you to visualize and understand on my merely mentioning them.

We had a great and severe problem to cope with. We were obliged to put into a great number of minds in a very short time a complete, a lasting and a uniform understanding of some of the most complex operations, mechanical and human, to which the human race has ever devoted itself. The motion picture, even before it touched the field of the invisible, was able to accomplish these things, because we were able to supply the information in a way that was "clear and quick"—clear, because it was large, because it was plain, because it was light, because it was pictured, and because it was complete; quick, because of the instantaneous change of scene which the cinema permitted us to make, handled like that (snapping fingers); quick, because it was direct to the point, and quick, because, as Dr. Galloway has expressed it in another way, we were able to supply the information at the rate of 8,000 pictures per hour.

It was vivid, far more vivid than the spoken lecture, because the figures shown were heroic and lifelike, moving and always specific, never general. A picture cannot be abstract. The course of instruction is uniform, being the same for each group of soldiers, and being the same for each soldier in the group, equally visible to all of them, because there was no physical obstruction and because the set of images supplied to each man was the same. It is also more successful than spoken lectures because impressions that go to the brain through the eye are more lasting, as we remember faces when we forget names. We never hear the expression "in one eye and out of the other" as we hear the expression "in one ear and out of the other"; the eye remembers what the ear forgets.

But, while all of these things were of great help to us in all uses of the pictures, it was not until in the last few months when Mr. Bray, one of the inventors of the animated cartoon, and Mr. Leventhal of his staff, thought of applying his patents to processes for animating technical drawings and placing at the disposal of unimaginative minds a clear impression of invisible things, that we realized fully the instrument that has been placed in our hands. Mr. Bray turned over his staff and his patents to the government, and pictures were immediately made showing such things as the explosion of gases from the discharge of a shell, retarded explosions, electrical currents, microscopic phenomena of various sorts, etc., things which were hidden because they occurred in and behind other things, and all of that great field.

One picture particularly was most conspicuously successful in this work, and that was the picture which was prepared of shrapnel. Shrapnel is a very complex subject, not more so than many of our military instructors had to deal with, but none the less perhaps more so than any other, and shrapnel had always required a sixteen weeks' course on the part of the lecturers at West Point in order to put it into the heads of most carefully selected men. It took ten days—ten sixteen-hour days—of the time of our expert operators to comprehend the subject of shrapnel, the minimum requirement necessary to put into the minds of any officer who is going to handle that type of shell. These men had been occupied at that time by some nine months of application exclusively to the subject of munitions and other war matters. They had a complete equipment of munition vocabulary and it took them sixteen hours a day for ten days to comprehend that subject. But when they got through, they were able to put into a moving picture, matter which covered the same ground in a period of twenty minutes, a fifteen-minute picture, and five minutes of lecture afterwards referring to images which were already in the student's mind. This shrapnel unit is the first picture I am going to show you.

(Shows picture.)

To appreciate the help that pictures of this type give in the military instruction work, it is necessary to visualize our training department as it was during the summer of 1918. At that time we had already well consumed our West Point officers, our reserve officers and had combed the entire country of its available stock in the way of material for officers, and we had to make competent officers for the new draft out of men less advanced in education. We had to make the men themselves expert operatives of highly complex and very expensive and very dangerous machanisms.

In giving these men the information, we encountered five great difficulties, due both to limitations on the part of the instructors and limitations on the part of the recruits. We had omissions which left the men without instructions which they should have had. We had variations which we had to cope with. We had misunderstandings. The instructors forgot some of the things that they should have explained. There were omissions that were due to conflicting noises, and omissions that were due to distractions by the eye; there were omissions that were due to mere vacillating attention and there were omissions that were due to the failure to understand what was said. There were variations—variations due to physical disability for the day or for the week, sometimes on the part of the most competent instructors. There were variations due to vocal indistinctness, and variations which were due to the mood and spirit of the instructor, which may have rendered him ineffective. Then we had interruptions—interruptions of people coming in, and interruptions to the students, primary questions about things that the instructor would advise them about, if they gave him a little time; and he would say, "I am going to get at that later." The instructors had to say that over and over again, each time meaning an interruption, and each time meaning a delay. Then, we had the interruptions due to the digressions on the part of the students in order to tell of this or that experience. But, the moment we had the moving picture in the room, we were protected from all these things, because the man who came in to intrude, sat down to watch. The motion picture did not have any moods or physical disability, or vocal indistinctness, and explosions just a little bit away did not interfere at all with the imparting of the information, and the pictures never forgot. We were protected from misunderstandings due to short vocabulary, and misunderstandings due to insufficient imagination. We found we had protection from those misunderstandings which came, many of them, from men who had learned to speak our language, but had not learned to think in it. We were able to move along at full speed without misunderstandings, so long as we were talking to them by means of the pictures. In this way, most of the difficulties, in fact, practically all of them to which I have referred, were overcome.

We were also able to get protection from another very serious difficulty, and that was the difficulty of danger. We had a great number of green men tackling complex mechanisms which were dangerous and liable to hurt them. We could not spare these men, anyway; we needed them. By means of the motion pictures we were able to bring floods into the room without wetting anything, and fire into the room without any danger of conflagration, without danger of burning up anything. We were able to have explosions repeatedly without any danger from concussion, or danger of smashing up anything. We were able to portray the standard forms of accident without any of the costly things which might have accompanied them if men were obliged to learn by their own experience.

If you will imagine for a moment the shortage which we had in the way of competent military instructors at the time we had officered our first draft, you will appreciate what these things meant. An audience composed of training school men ought to be able to appreciate what it meant to the army, and what a great help it was to discover these protections from doubt, omissions, variations, interruptions and danger. From doubt, I might say, because many of the recruits who came to the camp came from the backwoods part of the country, in some cases the ranges of the far West, from the mountains of Kentucky, from desolate shores like those of parts of northern California, and again, from our southeast coast, where the men had never had any experience with anything more complex than a spade, or pickaxe or shovel, and were actually incredulous when the instructor began to tell them that "this machine will do this" or "this munition will do that." They thought they were being "joshed"—a state of mind which, you will all recognize, was no proper state of mind for the reception of serious and complex knowledge.

The next picture is shown in a form modified for popular exhibition. I showed the shrapnel picture complete, that you might have one in full, but the other films are abridged for this particular purpose, and some parts have been taken out for the picture, since they are to be shown for popular purposes. The examples here we have chosen are each different in each group, and we have so arranged them as to have as little duplication as possible. (Mr. Handy then showed the picture.)

Before showing the picture of the depth bomb, I want to call attention to one or two conveniences we discovered gradually as we went ahead with this moving picture instruction. We found that we could control a few little things like time and space and conditions and natural laws. That is, we found that we were able to show today things which would not happen until tomorrow, for example, as in the case of a machine gun where we were able to give pictures of the camps when there were not machine guns enough in them to go around, so that the men were able to carry a mental image of the representations of the machine guns which equipped them admirably for the manual familiarity which they gained later. We were able to show things which occurred in the past. For example, we were able to reproduce conditions which occurred in past wars. We were able to bring to life reproductions of individuals who had passed on. We had control of time, in a sense. We were able to show things which occurred so imperceptibly so as to be hardly noticeable, and things which occurred too quickly to be seen, an example of which I will show immediately after the depth bomb. We were able to show things simultaneously which occurred at different times.

We discovered that we had control of space—control of space in the sense that no matter how far distant anything might be, we could bring it into the room. In that way we could make instantaneous journeys to the farthest points. We were able to show things together that were really separate, and showed, separated, things that were inseparable in fact.

Again, we were able to conquer space. We were able to show things too small to be seen, microscopically,—and things too big to be described by any other method. We could bring a whole battlefield into a small room. We could move a steam shovel into this small space and then move it out. We discovered that we had control of natural laws, and in that way were undisturbed by a little thing like gravity. We could place a thing that required support on the screen without its having any support, and it would not fall. We were free from difficulties due to magnetic interferences, attractions, and things of that kind which frequently had interfered with instruction.

We were also able to show the invisible, some samples of which you have seen—not merely things invisible, because they were too swift or too slow to be seen, but also the invisible, like electrical currents, which could be seen only in the mind's eye, and again those things which are intangible, like thoughts, hopes, fears, dreams or anticipated things.

In the case of inventions which were still in our factory, we were able to place on the screen pictures of them and familiarize the men with them, before they were available, so that they might be more quickly used when available. Then, we found we had control of other conditions which had interfered without instruction previously (in the sense that we were able to have persons present who were necessary for certain instruction, without really having them there). They might be one thousand miles away, and yet we could put them on the screen.

Another thing, and that is very important—we were not interfered with by weather conditions nor by the preparations for lectures that we ordinarily had to make. We made preparations once and then did not have to make them any more. Again, we found we were able to show things regardless of certain physical or chemical circumstances which might be necessary for them. We were able, as you will see in the case of the depth bomb picture which I will now show you, to take men down under the sea, and let them see the things which happened down there. Yet we did not drown them.

There are many men who know their subject very well, but have difficulty in explaining it. We find that there are comparatively few educated men who can give the lectures in a quick, snappy way, and at the same time bring them home to the students. Others could do things well themselves, but were unable to properly explain them to others. In some cases, while they could do them well once, when they tried to do them over again, they could not do them so well. By these processes, exemplified in the baseball pictures, we were able to analyze their motions and determine precisely what they did, in contrast to their own impressions of what they did.

The next picture is a picture telling how the telephone talks and an example of how we handle electrical currents and other invisible forces of that character. In this picture, which is one of the latest we have made, you will notice we have alternated the real and artificial, changing one forth back into the other, and in that way giving the theoretical picture a reality which it would not otherwise have.

As before, we supply the vocabulary as we go along, by naming objects by the pointer, but we introduce there this further step I spoke of, supplying the imagination necessary to visualize the electrical current.

Following this, we show a picture of map reading. That is another very complex problem in the army. A military map is a very abstruse proposition, and yet a clear understanding of it is as necessary to every officer as any other equipment for his duties. You will note in that picture the introduction of certain additional processes besides those used in the telephone.

Besides the problem of teaching technical subjects, we had the problem of morale. We first tried the animated comedy for this use on a cartoon suggested by one of the generals, which was a cartoon of what happened to a doughboy when he misused his pass. We treated very humorously Private Bass and his adventures.

We soon found greater and more general uses for the animated cartoon for morale purposes.

For instance, at the time, which you may remember, when the German propagandists were circulating stories very generally of the marvelous inventions which the Germans had made, with which they planned the destruction of the United States (large submarines which would bombard our Atlantic seacoast, and the great guns with which they would bombard our inland cities from points at sea, and various other stories), some of these our men took in earnest and some they did not take in earnest; but all of them had a destructive influence on the confidence of the country, and particularly the confidence of the less informed recruits. One captain said—"My boys are not yellow, but they are scared stiff by some of these stories. The men who have come in from the back districts and discover for the first time, perhaps, a street car and telephones and things of that kind are in a mind to believe and swallow the most fantastic of these propaganda tales which are circulating around." So to cope with the problem of morale and at the same time give the public some fun, we devised such films as "Von Loon's Twenty-five Thousand Mile Gun," which we generally circulated. That film discredited these tales by ridiculing them. Applying the principle of *reductio ad absurdam*, we made a character who invented a 25,000 mile gun—gave him a looney name—and made him go before the Kaiser and tell of this wonderful invention he had, a gun which could shoot around the world. He shoots a shell from this gun. He and the Kaiser are watching as it sails along. Pretty soon they get a close-up of the earth, and see the whole globe and the shell going around it. It proceeds around the globe until it reaches New York. On that day, on the tower of the Singer Building on the flagstaff, there is a darky painting the pole. Lo, behold, the shell hits the darky on the head and deflects upward, and the darky pretty nearly loses his balance from the impact of the shell. Then the shell goes on around the world, and comes back to where it was started and explodes in front of the Kaiser. After a man looked at that cartoon, he was ready to ridicule any story about any German invention. You cannot have fear where you have laughter. Talking seriously, that cartoon accomplished its purpose. The cartoon I am going to show today is not a fun-producing cartoon, but a faith-building cartoon. You may have heard what a famous general said in connection with the war, that faith and munitions won the war, but particularly the faith of the Americans. Faith of that kind can be built up by means of cartoons. This cartoon which you will now see is "Uncle Sam's Problem," and it starts on the presumption that we will get the Kaiser, by asking what we will do with him after we get him. The cartoon is funny, and taken unwarned, you might not realize the powerful psychological principle which operates on that presumption. But you can consider it from both viewpoints as you watch it. (Mr. Handy then showed the film, which concluded his presentation. Great applause.)

VICE-PRESIDENT KINCAID: I am sure that I am voicing the feelings of everyone present, when I say that we are indebted to Mr. Handy and the Bray Studios for the very fine films they have shown us and for the most interesting descriptions which Mr. Handy has given of the films. I think most of us could pass a first-class examination on shrapnel, if we could not on the Kaiser.

We have about thirty minutes in which to discuss the very interesting report of the Committee on Organization and Administration. We have had a wonderful paper and some very wonderful graphic illustrations of how the film can be used in industry. If you want to ask Dr. Galloway any questions, I am sure he will be glad to answer any that you may ask.

MR. SYDNEY W. ASHE (General Electric Company): There is one question I would like to ask Dr. Galloway. I was very much interested in his paper, but I want to take exception to one matter discussed. Dr. Galloway in reading the Committee Report makes a comparison between industry and industrial democracy, etc. I read a little book the other day that our manager, C. C. Chesney, sent over to me, entitled "Back to the Republic," by H. F. Attwood. I do not know whether any of you have read this little book or not, but if you have not, you can read it in an evening, and you will find it most instructive. This little book points out a very good lesson in times likes this; in other words, it brings to our attention something which we all know, but which we forget, and that is, in this country we have not a democracy. We have a republic, and there is a very decided difference between a republic and a democracy. In a republic the regulating body or the people who administer your government are elected. They are chosen as the representatives of the people by the people, besides which you have a proper balance between the law-making bodies, the administrative bodies, etc., in the makeup of your government. With this scheme of.government it means that those that are the best able ot govern or to administer our affairs are those presumably that are elected for this purpose, and they represent us. Politics may play a part, but on the whole we elect some pretty good men.

In a democracy you have a condition where anyone who has anything to say, or anyone who wants to make a change can do it, it is everybody's government—Bolshevism is the extreme of democracy. Mr. Atwood points out in this book that the reason that the United States today is the most powerful country in the world is due to this form of government, or to the facts that it is a republic and not a democracy, and he emphasizes the need of doing away with these isms and the various new ideas that are advanced from time to time, where anybody who has a new scheme wants to start a new party to exploit that scheme, and he points out the necessity of our sticking to our fundamental concepts gained through the experience of our republic, as established by our forefathers, most of all through the concepts of Jefferson and Hamilton and others.

Take in manufacturing, our biggest industries are built upon this basis: there are certain people who have been developed and trained, and who are natural leaders of men, and these people are fitted and developed for the work. Where the tendency of the times leans towards change, new groups and you are running open house, and anyone who wants to make a change, is at liberty to propose the change, and is always said to have certain adherence to anything that is proposed, and all that sort of thing, you are getting away from the basis on which this government was so successfully established and carried on up to the present time. I want to leave that little point with you, that once in a while it is well to get back to our original concept of things.

There is something else I want to ask in connection with the meeting. I want to inquire if any of the members present have had any experience with what are called outdoor moving pictures? That is a matter of personal interest to me. I have reference to the outdoor moving pictures in which they use something in the nature of a shadow box, to such an extent that you can show the pictures in a room as light as this. I have seen a demonstration in one place in our own company, in Schenectady, where there is a sort of box built, a projection made over the picture. It was quite successful. The idea is, you can project moving pictures from the out of doors with it, and I was wondering if anyone else had had any experience with this form of moving pictures. While we use moving pictures in our work at Pittsfield, and have always done so since the introduction of the moving picture, you can see there is a great advantage in showing moving pictures if you can do so without darkening the room.

Mr. C. P. Davey (The National Cash Register Company): We have used the class of moving pictures you refer to at the country club at Dayton, Ohio, and we have them out of doors, and they work very well.

Mr. Harry Hopf (Federal Reserve Bank of New York): You refer to the stereomortograph?

Mr. Davey: Yes,—I do not know where they are manufactured.

Mr. Hopf: They are manufactured in New York. They may be used for the showing of different lantern slides on educational purposes. We have used this machine several times in the past with good results.

Mr. Ashe: My idea is to use not only the ordinary lantern slide, but the moving picture as well.

Mr. Myron S. Hazen (American Agricultural Chemical Company): I understand that one of the branches of the Y. M. C. A. service has had one of these instruments fitted to a Ford truck, or chassis, and used in connection with the War Community campaign service. The information came to me second-hand, I have not seen it myself, but some motion picture concern mentioned the fact the other day in an interview I had with their representative. They have an outfit mounted on a Ford chassis which they have used around the country in some of the campaigns. It is a daylight exhibition.

Mr. Davey: We have been using motion pictures for about a year now and we also originate and use slides. I have had complete charge of the motion picture instruction work and time-study work for the entire plant. We have about eight thousand employes in the plant of The National Cash Register Company at Dayton, and I have about eighty men working for me, on this motion picture instruction proposition. Every one of the eighty men working for me has been trained by means of motion pictures.

We have made motion studies of all the principal operations in the factory, and we use motion studies on the piece-work system. An instructor explains the work for fifteen minutes before the workman goes to work on the job, and the workman then knows exactly what motions are necessary to carry out the work.

The first and biggest reason why we should be interested in motion picture instruction, in the carrying out of any ideas or short cuts on operations in factory work, is because our apprenticeship system is practically dead. Apprenticeship systems have died and have been dead for about five years, with the exception of a system which they have just resurrected in the State of Wisconsin, and which is being operated under the state laws of Wisconsin. Outside of that I do not know of any definite apprenticeship system at any place. We have started an apprenticeship system at the works of The National Cash Register Company and are building that up, but we have not yet made very great headway.

Because of the lack of apprenticeship systems we have fallen down on the number of real mechanics. We do not have any real mechanics any more. Previous to the war the registration showed we had ten million mechanics in the United States. Out of that number we have lost a considerable proportion because they were drafted and sent across to the other side. In addition to that, there is a great deal of immigration to the other side. That means that the raw material out of which we used to build mechanics is going back to foreign countries just as fast as it is possible for it to get back.

In addition to that we are turning out of our schools boys who would be good mechanics later on. However, we are turning them out of the schools when they are in the sixth and seventh grade. Why? Because we do not have competent instructors to teach these boys while they are at school. Many of the troubles which are experienced by the instructors in the corporation schools would be greatly lessened, or wholly eliminated. If we can only get the public to get back of the instruction and get it across, in the corporation school, as it should have been gotten across in the graded schools, then we will do something which will be of benefit to these youngsters who are turned out of the schools when they are in the sixth and seventh grade. Take the case of a boy who comes from the sixth or seventh grade; you are taking a lad who does not know much more than the simple rules of arithmetic. If you do not get into this proposition and dig deeply, if you do not take every means at your command to advance this subject of the education of the young men, you are not going to get results.

These particular motion pictures bring out the idea. They are very useful as an auxiliary in this work. If you cannot use the pictures, do not forget, in your lecturing, to get down to the vital point, and when you get the matter up to the man who is to take action on your suggestions be sure you are not shooting over his head. I heard someone say this morning that the main trouble with the convention here was that we did not have enough men who are really representatives of the executives of the concerns which they represent. I differ with you. We have representatives here, and if these representatives have anything to sell, they can sell it in their own corporations. I know what I am talking about, because it took me fourteen months to get an idea across. I have got it across, and I only succeeded after months of effort in getting it across.

When I started out on this motion picture proposition, I had been working on this motion study proposition for six years. I started in on it in Milwaukee and pursued my motion studies with boys. I had charge of enough boys to know what I am talking about. When you try to fit a round plug into a square hole, you will never get anywhere. That is old stuff, I know; something that you have heard hundreds of times, something you have thought about, and something that has not been carried into action.

In addition to that we have another bad thing in our large corporations, and that is our wage systems. I would be willing at any time to discuss wage systems—not that I know all about the subject, although I have made a study and survey of wage systems. I find there are so many different kinds of wage systems in the United States which are so thoroughly misunderstood by the laboring people that you cannot get any results from the people who are working for you, because of the misunderstanding with regard to the wage systems. There are piecework systems and bonus systems and everything else, but, gentlemen, if you get a piece of paper and plot a straight piece-work system, and a bonus system, the straight piece-work system has a straight line constantly increasing, while in all other systems the curve tends to decrease the earnings of the worker. That is what happens to the worker in most cases; when you go to the bonus system, you will then agree with me you are not treating the workers squarely when you do not give them straight piece work. When a price on a piece of work has once been set it should never be changed. We have a case in our own factory which brings out this point. We set the price for a certain class of work on an average man's daily output. We did everything we could to find some way of setting a price on the job which would be fair to the worker and employer at the same time. It was an electro job. The average man turned out 40 electros a day. After we set the price and put it on a production basis, one of the men turned out 120 electros a day, and earned $13.00 a day. The man who earned $13.00 a day had a bad effect on the other fellows, because his job was priced out of proportion. However, we will continue to pay that man $13.00 a day until we get a better method of getting the work done, because we want that man's confidence.

I do not believe in a six-hour day, but I do believe in an eight-hour day. I believe it means a motion study and fatigue study to get the same amount of work in eight hours you used to get in ten or twelve hours, and no overtime.

And yet, at the same time, send the man home in a condition to enjoy a few happy moments. We will get, taking the matter as a whole, much more satisfactory results if the above plan is followed out. In addition to that, look at it from the humanitarian side; consider the benefits it will give to the working people. When you tell a man how to carry out a job in the shortest possible time, and how to carry it out without using up the same amount of energy he used on the job previously, you will send him home in a happier frame of mind. If you do the proper amount of welfare work, you will send him home so that he will be happy with his family, and that means that you will secure more production than by any other method.

The pictures which we have seen brought out the idea of efficiency of motion pictures. You do not want to show them everything, but the things that it is proper for them to see. Pick up a magazine. I do not know anything about advertising, but I know a little bit about psychology. Pick up any magazine you want to pick up, and start to read an advertisement, and I will tell you, gentlemen, if there is an attractive picture before your eyes, you will not concentrate on that advertisement. That same thing applies to any picture you may use in motion picture studies, or in reading matter. Another thing, a man must read a caption for a motion picture or slide at a glance, or he will not turn to it again. When teaching through the eye (Mr. Patterson of The National Cash Register Company has been an advocate of that) you will do something which will remain; you are transmitting something that will stay there permanently.

I believe that is as far as I want to go. I am talking a little bit offhand, and I do not want to step on my own toes, which I am liable to do if I continue.

Mr. Hopf: Speaking strictly on the subject of the Committee's report this afternoon, which is Organization and Administration, I should like to have a few moments to outline several general considerations which I consider of great importance in visualizing the relation of The National Association of Corporation Schools to the member companies, and if I differ from Dr. Galloway in some respects, I hope it will be with the deference that is due from a pupil to his teacher, or, shall I say, a humble lecturer to the boss of the Accounting Department of New York University.

Every scheme of organization necessarily involves a clear conception of the thing to be attained, and a thoughtful and methodical devising of the means by which the attainment can be promptly, adequately, and easily secured. That is a comprehensive definition of organization enunciated some years ago by an English actuary, and I believe that it fits all practical requirements. In considering an ordinary business organization I should like to add to the three divisions of production, finance and distribution others which I had commended to the committee, and these are to split finance into accounting and finance, and add a great big division which stands in a service relation to production, finance, accounting and marketing, and lastly the sixth division, which I have held for years to be the most important of all; namely, that of human relations. If we can get that conception into the minds of our executives, we can dispense with their presence here, but until we can do that, I think it is vitally necessary that we should urge them to come here and be educated.

I, too, have had a little experience in persuading others that some of the phases of the work of this organization are entitled to their respectful consideration, but shall I say to my friend, the previous speaker, that is a little bit dangerous to reason from the particular to the general, and perhaps it is better to be in the first stage rather than in the second.

If we consider a business organization to be divided naturally along the six general lines I have designated, there is one other thing we must realize, and that is that there are five channels through which all productive effort toward improvement can be directed; namely, organization, personnel, methods, equipment, and standardization.

Now, the word management has been used—and I think sometimes it is abused—especially in connection with the word organization, and they are treated as though they are something separate, and we hear the terms loosely described. To my mind, organization is the static phase of management. It uses organization and infuses it with life and personnel, and the personnel uses methods, and equipment, and standardization to accomplish the aims for which the organization is created. That places the emphasis on personnel, where I like to see it placed all the time, and it indicates about the only other syllable worth while in management is the first. We do everything through influencing men and women, and we can create in our executives a conception of the personnel department as the fundamental sixth division of the business organization. We shall see immediately that it requires the chief executive of the institution to be in responsible charge and that all the relations which are represented by the various departments in this organization will be coordinated and brought together in harmonious endeavor by the purposeful action of the chief executive.

We find in any business system that someone who is particularly aggressive will start something, let us say with respect to welfare work. If that is not correlated with the other divisions of the organization that have to do with personnel, we have a difficulty, and there is created a condition where the organization as a whole does not properly function with respect to the welfare work, and there is apt to be too much of a good thing in the case of the welfare work. There is a wide field for what is commonly known as welfare work, and if the standards of selection are equally well developed, we can see that the two can go together hand in hand, and that the one assists the other, and that perhaps the importance of the second may be somewhat diminished by reason of the elevation of the first. Now, in all of our personnel activities, we have to consider, as was pointed out in the report of the Committee on Vocational Guidance two or three years ago by Dr. Metcalf, the fact that our relations with the men begin with selection and training and go to discipline, social service work, inspirational work and promotions and transfers to the end of the general condition represented by superannuation and retirement, and it is the duty of the executive at the head of the personnel department to so establish these matters that a comprehensive relation of personnel matters will be set up by him.

It is necessary to consider just what we mean when we use the term "executive." I feel that there are three classes of officials, the one, executive, the second, administrative, and the third, advisory. The executives establish the policies, the administrators apply these policies to the solution of the largely administrative problems, and the advisory officials give of their knowledge along special lines and give advice both to the executives and the administrators. What happens if the definitions and conceptions are mixed up? We find the administrator trying to establish the policies and upsetting the pre-existing order of things and as a result of this there is a tendency for all to part from the order of procedure. I have seen the order of procedure laid down, and persistent processes of disintegration started, because a proper division of the functions of the various individuals was not recognized and observed.

Take the case of sales managers, who are prone to jump over the traces and impatient of the things imposed from their standpoint, to hold them back, when, as a matter of fact, the imposition of these conditions means a good conception of organization by which the sales manager is safeguarded just as well as the others.

Speaking from the standpoint of the policies and the operations, I believe that the chart shown on page 166 of the report is weak, because it shows that the policies are transfused into action through a general manager. The theory is good, but not the execution. I have seen it fall down so often that I, for one, am persuaded that it is a mistake to have the policies handled through one particular official. I think they should be handled and unified and harmonized by a committee, to which even the general manager might well be subordinated. You have a neck in the bottle on that chart, and although the theory is good, yet in actual practice the general manager, one individual, if he has come up through one special department, for instance, if he came up through the marketing field, will devote more attention to the marketing, and if he came up through the production department, he will give more attention to the production field, that will be his immediate concern, and if he is that rare bird, a man who has come up through the personnel field, then we may find more than the proper emphasis placed on the personnel, although that is rather different. I would suggest, from the organization standpoint, that the chart might well show a committee dealing with the question of the construction of policies.

In the personnel division, as well as other divisions, there should be departmental committees who will be responsible to the chief executives through the heads of these departments for the shaping of policies, and it is just as important to correlate the individual divisions as it is to see that no one of the subdivisions is slighted.

May I say in that connection that the matter of terminology —we speak of employment management—is also important as being conducive to clear understanding. I do not like the phrase "employment management," but do not urge my view on you, except that to me the term "employment" means the process of that acquisition of the human material, and all those activities which have to do with the selection, up to the point of placing the individual, but beyond that we get into different activities, and if they are educational they should be considered by the educational bureau and if they have to do with promoting the welfare of employes, then they should be considered by the welfare bureau or the personal service bureau, or whatever term may be considered advisable to apply to these divisions, but as far as the whole range of activities are concerned, I think personnel management is a better term, and employment should be limited strictly to the function of acquisition.

Just a word on the distinction between training and education. We have heard the word "training" mentioned, and the report refers to training as including a number of matters, among other things, job analysis. I will have something to say on that tomorrow, Dr. Galloway. Training, to my mind, is that function which has to do with the development of skill along educational lines, and education is that function which has to do with mentality in the broad sense. The training section is a sub-division of the employment bureau. The educational department stands as a separate bureau, coordinated with employment on the one hand and welfare on the other. It is very important that these definitions should be understood and appreciated, so that there will be no conflict, and so that the department heads of these different divisions will logically find their place of support and guidance at the hands of the executive who is in charge of all of them. There is nothing more distressing, to my mind, than to see a perfectly good personnel department warped completely out of shape by reason of the varying degrees of the temperaments of the executives in charge of sub-divisions. If we have an employment manager who is not aggressive but retiring, why, it is likely that the educational department and the welfare department will assume much larger proportions than would be the case if the employment manager saw to it that the employment department was properly developed. It is easy to have an employment department degenerate into simply an interviewing function.

I have already detained you longer than I should, but there is one other distinction I should like to give, and then I am through, and that is, with respect to calling certain phases of the work departments, and not divisions.

I like to feel that the primary function in an organization, such as production, or marketing, or administration, or financing, or accounting, or personnel work, is a department of the business and that the employment function in the personnel department is a division of that department; that the training or placement of records is a section of the employment division, and a still further division readily might be made, such as group or unit, or some other term which those of you who have had to do with military work are just as familiar as I am, if not more so, and can suggest what should be done under that head.

President Rowe: I like the definition of a republic that Mr. Ashe has given us. I wish to speak particularly of certain statements that I have heard in this convention and which I also heard in the first convention I attended, which seem to carry some implied reflection on our public schools based upon a general allegation that they should be administered so that they could be considered as a source of supply from which we could get a particular kind of help wanted in a particular industry. To this idea I am most emphatically opposed. The only purpose for the institution of public schools in the early history of our country was to prepare the young people of that time so that they could read and write and use figures with sufficient intelligence to qualify themselves for intelligent citizenship, and that today covers the entire purpose and function of our public school systems. All the evils that are described as being faults in the education of pupils in our primary grades have grown out of the departures from their original purposes, and these departures have been forced in many instances, either by the public generally or overly ambitious and selfish school authorities.

I was a teacher for many years. I have engaged in industry for many years. My principle business has brought me in touch with many school systems. I know the students' side; I know the teachers' side, and, extending my experience further, I have seen the side of the college professor. During all these years I have been a student of education and I want to impress upon you that whenever this country reaches the point where we conduct our public schools merely as preparatory schools for work shops, trades, department stores, office work, and the like, the future of our country and its institutions are in danger, our country may cease to be a republic and the foundation upon which it is built is likely to crumble in ruins. If there is any trouble with our public schools as we find them at this time, it lies in the fact that instead of confining their efforts to the teaching of those fundamental things that are now a necessity to all of our people so that they may exercise intelligently their powers of discrimination in their decisions with regard to their existence, and to their associations with their fellows, to their government, to their country, to their constitution, and to their flag, we are permitting our schools to force upon our children a consideration of subjects which will prepare them for doing some particular little manual or mental job so as to supply labor for some particular industry. This has already gone so far as to cause a condition of "mental dyspepsia" that is rapidly spreading to include the entire people in the United States, a kind of school training which is impossible for them to teach and still grow up in the elements of good citizenship which I have just described.

One of the most pernicious forms of educational dementia which had its day and that finally died away was called "child study." Every educational apostle preached it; every educational worker tried to consume it. We went so far as to attempt to dissect the little animal which nature's processes brought to us for education shortly after he was born to discover not only what should be his physical functions and operations, but also his mental functions and operations. This disease raged on and then later it was called vocational guidance as being the latest thing denoting something higher in the realms of intellectual knowledge and that disease is now at its heighth as a fatal epidemic killing off the little minds that if they were just left alone to live and grow would some day be able to select their own vocation intelligently and which they are going to select anyhow, whether intelligently or not, for vocational guidance, to the extent that it can be used, is nothing more than mental suggestion. We cannot very well begin to guide in vocation until after the fellow being guided has a vocation. In its application, suggestion is a tremendously influential medium when it is properly presented to the young and plastic mind. Indeed, the most our little ones learn in their early years is through processes of suggestion and comparison, but the things they learn are not vocational as we understand them.

When we come to a discussion of vocational guidance as a suggestive process that may be used in corporation schools with adult students, it has an entirely different meaning and application, but that gives no excuse for the assertion that the public schools are deficient in the purposes of their creation and conduct. The teachers in our public schools are martyrs. The curriculums that are instituted are not of their making. They represent a forced compilation of what a certain class of our citizens have forced upon the public schools, which is that from the grammar grades down that the processes of the school should be wholly for the purpose of training young people so that they may satisfy the call for office boys, clerks, saleswomen and other forms of cheap labor. The result is that in our schools it is attempted to teach too much of all kinds of things instead of sticking to the fundamentals that will prepare for intelligent American citizenship. When we shall confine our efforts to preparing our children so that they may understand something of their own human nature and of others about them as they come in contact with it in the various relations of their young lives and eventually so that they may know how many stars and how many stripes there are in our national flag, what they stand for and what our federal government stands for, then we have built a bulwark against the attacks of ignorance and strife as represented in bolshevism, anarchism, and the grosser forms of socialism, which will stand forever as an unshaken foundation upon which shall rest the great republic which our fathers instituted. No one has a right to obtrude upon the functions of the public schools for special purposes unless he is willing to do so at his own expense and then upon a bonded guarantee that he is in no way detracting from the bill of human rights under which the child was born, raised, and under which he has a right to live.

VICE-PRESIDENT KINCAID: I should like to comment on one point, and that is the matter of thorough work in the three R's. I believe that is something that should not be overlooked and I think should be emphasized. Before a boy can be of service in any calling he must have a thorough grounding in arithmetic and taught the reason for every step. I fortunately had one teacher who could do that. She said solving the problem was only 50 per cent and the reason was the other 50 per cent. We cannot place too much emphasis on a thorough grounding in arithmetic, as that is most important. If a boy or girl is taught arithmetic and given the reason for each step taken in solving a problem, they will develop their own reasoning power through this process. I would rather have a boy or girl of that class in my shop than any high school student that has not been taught by this method.

MR. DAVEY: May I say a word?

VICE-PRESIDENT KINCAID: Our time for adjournment has passed and we should give Dr. Galloway a chance to say a few words in closing the discussion.

CHAIRMAN GALLOWAY: I do not know whether I will make a very good mechanic or not in this regard. Parts of the bridges that were destroyed were built by other people, and the structure I had erected has been attacked along some of the bases that I did not suppose were there.

Taking Mr. Ashe's reference to the use of the word of democracy—I have no objection to interpreting our present method under the terms of a republic as against the terms of a democracy. I presume that when President Wilson said we were going to war to make the world safe for democracy, he meant the kind of democracy we have here, or at least the way we have interpreted democracy in this country. That is what I had in mind. In other words, to be more specific, a representative democracy.

You might go back and get some valuable lessons from our early fathers as regards the term "democracy" and what they meant by it. I wonder if you realize that in the early days, when Cotton Mather and others were active, that those men were as afraid of the political demagogues that were then in evidence and preaching representative government as we are today regarding the Bolsheviki?

It is remarkable, in reading some of the literature of those early days, and the letters of the founders of our republic, to read how they rose up in their pulpits on Sunday morning and declaimed against democracy; in other words, they thought it was the greatest evil which had come upon the world at that time, and they felt that putting the reins of the government in the hands of the people was one of the greatest errors of the age. This early attitude seems remarkable when you think of the progress that has been made in our form of government since that time. The kind of democracy I was referring to is that which I think most of us has recognized as being based upon the fact that men, as they gain interest and position and power within an organization, begin to ask for representation for their views in that organization, and we are simply blind if we do not see, so far as the big nations are concerned, that they are demanding that one thing today with regards to labor. In America we are a little slower than in England—we are usually fifty years behind her in our commercial and industrial development—that may seem strange to some of you, but that history will prove the statement when you look into it. I say we must recognize some of these demands which are being made by labor and permit them to have some voice in the administration of affairs. The labor unions today already determine your minimum wage; the labor unions determine your apprenticeship system and the relationship of the system to the business. They are, in fact, controlling your output in many ways already; that is, they are having a great deal to say in an administrative way.

Whether these things are good or bad, I am not to say—but I know they will be bad if we do not build up within our organization a proper method to deal with these matters. If the executives of our organizations do not take cognizance of the fact that if these men are to have a voice in business administration they must be trained, and some way must be found whereby these men can be trained along constructive lines of thinking. We ought to see more clearly than the men who are working day by day at narrow jobs and with only the light of the present to guide them. That is what I have in mind when I speak of democracy in industry—intelligent men, both labor and capital, seeking through joint effort to raise the efficiency and service of the firm to ever higher levels of accomplishment.

A word as to what Dr. Rowe said—I know he did not refer to me, as I did not make reference to that subject——

PRESIDENT ROWE: I was shooting birdshot.

CHAIRMAN GALLOWAY: It was birdshot, I know, but one shot hit, and I want to rub the spot for just one minute. Our conception of our public schools has been influenced more or less by conceptions that have come down to us from the early fathers of the republic. They built on the ground they were familiar with and they built into the sky as high as they saw.

The troubles of education or, rather, its lack, which bothered our forefathers were connected with politics. You remember we were in our infancy then, the ramifications of the government were limited, and the whole educational system was correlated more or less, either consciously or unconsciously, about civics—and some of us remember even at a much later date that when teachers' conventions were held the time was taken up by lengthy discussions as to how the whole course of the public schools or universities might be correlated around some one subject. It used to be a pleasant pastime for most of the school superintendents and members of school boards to talk civics and see how many tentacles they could put out so as to touch all subjects. This was due possibly because it was said that the public school existed for the sake of good government and that therefore some excuse must be given by which they could tax the citizens for the support of the public schools. Admitting that this is true and met the necessities of those days, nevertheless our social organization has grown enormously more complex since the times of our early forefathers. We have today a very complex political organization, a very complex religious organization, we have a very complex sociological association involving all the ologies that have been mentioned, and a number that did not exist a hundred years ago. At that time, two-thirds of the people were on the land, on the farms, and one-third of the population were located in the cities. Today one-third of the population is on the land, and two-thirds of the population is in the cities, and one-third is supplying the food for the two-thirds, and the two-thirds are making machines, etc., for the one-third; in other words, at this time we have a very complex industrial organization, and problems of economics stand where civics stood a generation or so ago.

When we open our morning newspapers, what do we read? We read that our politics are dependent upon some economic program; the story tells something about the corporations, the trade unions, or some new invention which makes for an enormous production or the like. I presume that ninety per cent of the articles in the newspapers are economic in their bearing. We are living in an economic environment through which it is almost impossible for a man to find his way without some special study, without some special training. That is the reason I say that our executives should take up some consideration of our economic environment along with our civic environment, and I agree with Dr. Rowe that some of the isms should be dropped. Mineralogy, or something of that kind, might be displaced by economics to good advantage. The change in educational emphasis is all done for the benefit of good citizenship in an economic environment, rather than in a political environment.

As to Mr. Hopf's suggestions. I agree in what he has said and suggested. You can take any organization pertaining to its administrative program, and if you start with one premise you will develop a certain number and type of sub-divisions; in short, arrive at a certain classification. Mr. Hopf's classifications are very good from his point of view, and I simply had no idea I was putting before you anything out of the usual—my idea was that all the mysteries should be taken off the matter, and so put over the one idea of the influence, mainly, of the operating principle in administration in its effect upon men, machines, material, methods, etc., and the problems which have been produced thereby, so that we might see in the last analysis these and kindred complex problems which are all of executive grade, in one perspective, and to realize in the last analysis that the personnel, the divisions of labor, mental, physical, manual, and the like, and similar questions, are children of the one parent cause. I think those are all the questions that were brought up, and I thank you for the opportunity of saying these last words.

VICE-PRESIDENT KINCAID: We have run quite a bit over our time. Our meeting this evening convenes at 7:30 o'clock in this room. The program for this evening has a number of features on it, and the first one will be the Report of the Committee on Marketing, which will be presented by Mr. John McLeod, Chairman of the Committee. There are then three subdivisions of the report of the Committee on Trade Apprenticeship to be presented and discussed, and these will be in the nature of a round table discussion. I do not know whether we will have a large round table in the room or an imaginary one, if it is not really here, but a round table discussion, as I understand it, means everybody has a chance to say something here this evening, no matter who objects, and it will be a real democratic meeting, unless you have a kaiser for a chairman.

PRESIDENT ROWE: Before we adjourn, I wish to say that the program this evening is one of unusual interest, and I trust that we will have a large attendance of our members. I read a part of the Report of the Committee on Marketing, and it is a very interesting report,—it is taking up an old subject in a new way, and it is rich in dealing on the subject of salesmanship, and I hope we will have a large attendance tonight. I promise to say nothing unless someone talks on a forbidden subject.

The meeting then adjourned until 7:30 o'clock.

COMMITTEE ON MARKETING

MR. JOHN McLEOD, *Chairman*
CARNEGIE STEEL COMPANY
Pittsburgh, Pa.

MR. RALPH STARR BUTLER
UNITED STATES RUBBER COMPANY
New York, N. Y.

MR. W. A. CAPERTON
ELI LILLY & COMPANY
Indianapolis, Ind.

MISS H. R. FOX
STRAWBRIDGE & CLOTHIER
Philadelphia, Pa.

MR. A. M. HARPER
CARNEGIE STEEL COMPANY
Pittsburgh, Pa.

MR. T. H. BAILEY WHIPPLE
WESTINGHOUSE ELECTRIC & MFG. CO.
East Pittsburgh, Pa.

MR. C. L. WOOD
CARNEGIE STEEL COMPANY
Pittsburgh, Pa.

TUESDAY — EVENING SESSION.

MARKETING

TUESDAY EVENING—JUNE 3, 1919

PRESIDENT ROWE, *Presiding*

PRESIDENT ROWE: We have so much to do tonight that I do not feel we can afford to put off proceeding to business any longer.

I do not know exactly who originated the name of the topic to be discussed, but I have a suspicion that it was the gentleman who is chairman of the committee which will present the report. I take great pleasure in introducing to you Mr. John McLeod, Chairman of the Committee on Marketing, and a highly honored past-president of this Association, who will present the report.

MR. JOHN MCLEOD (Carnegie Steel Company): Our President has just told me I have the whole job and he has made it a difficult one for me, because he has accused me of something of which I am not guilty, that is, suggesting the subject for this committee. I think the President suggested it; in fact, I am so sure of it that I have so stated in my foreword.

After going into the subject of marketing some, and having the subject put at me with that title, it struck me as being one of the most important things that we, as an Association, have to consider, because it involves every item of industrial activity, for no man invests money in a manufacturing enterprise at least who does not have as his objective the marketing of the product, and there is nothing that he does, from the financing, the promotion, the building of his plant, to the selection of his workers, but what has an influence ultimately on this particular subject.

I called to my assistance those who had experience, as is reflected in the membership of the committee, as given on the first page of the report. You will note that they are men who have had much to do with the marketing of the products of the companies they represent.

I assume you all have a copy of this report, and are therefore prepared to ask any questions or to enter into any discussion which would suggest itself to you in the presence of what we have here put before you.

Personality is a valuable asset for a salesman to possess, but it is also very necessary that he has a real knowledge of the products he is attempting to market, the service they can render. Therefore, I think that when a man is selling a commodity, he is not really selling an article; he is selling units of service, or the service represented by the article. If that is not true, then why is it that men are willing to pay $20 or $25 for a car wheel, when they can buy a car wheel for about $8, the reason being that the $8 car wheel will give 40,000 miles of service and the $25 car wheel will give about 200,000 miles of service—well, I do not know just what the price is today, but I am referring to these higher grade freight wheels and passenger wheels, and I am perfectly safe in saying that they will give four to five times the service that the $8 car wheel will give—in other words, they have an advantage of from four to five to one in point of service.. To properly do that, sell units of service, it is certainly necessary for you to know all about the article you are selling, how it is made, why it is made that way, in order to convince your customer that what you say is true. You cannot convince him if you do not know it yourself, therefore, it is absolutely necessary for our industries to take more pains in training the salesmen who represent the industry, leading them up to a knowledge of the articles they are selling, from the standpoint of the service that these articles will perform.

Under the head of "Vital Factors in Marketing" we have just fourteen points. The first is Promotion Prospectus; the second, Partial Organization, and so on, as listed, and all of these have something to do with the final distribution of the things made in the buildings and equipment. The fifth item in the list, the Purchase of Materials, means everything you buy has to be carefully bought, for that represents a fixed charge which has to be absorbed ultimately by the man in the field, in his marketing, as against someone who has done a little better than you have done in your enterprise in that particular. The sixth title is Manufacture of the Product; the seventh, Permanent Organization — Production and Finance. The eighth is Man-Power, which really means personnel. The ninth, Cost System, and in passing I may say that the cost system in our industrial life is one of the most important things to take note of, because it has so much to do with intelligent marketing. If a man does not know how much a thing costs, he not only disturbs the profit of his enterprise, but he also disturbs the market for others. Therefore, a cost system is one of the very important features in an industrial organization. The tenth subdivision is Active Selling—Completion of Organization for Marketing. That means the placing of your agencies, getting them located properly, so that they are in a convenient place in the towns where you have your agencies, and questions of that kind, and they will suggest themselves to you as coming under this heading. The eleventh, Credits, and credit is a part of the sale, just as much as collection is. A sale is not completed until you have arranged for the collection of the money and taken care of the credit you have given. That is being esteemed to be so important that even the banks now are imitating our industrial enterprises by having credit managers in their banks who are determining the credit represented by a loan from the standpoint of statement, rather than from the standpoint of the Wall Street tape.

The twelfth item is Collections, which, as I have just said, is a part of the sale. You have to arrange for collection or your sale is not complete. Item thirteen is the Handling of Inquiries, Orders, Complaints, Adjustments, etc. That is a part of the main office duty to their agency and the customer. The fourteenth point is Service.

Now, then, the question of marketing really happens to have fourteen points, which I think really covers the ground. Of course, each one of these fourteen points has been subdivided from anywhere from ten to a dozen subdivisions, and then in the back of this report you will find detailed statements which represent the opinion of your committee on each particular subdivision.

With these remarks I feel that the question should now be given to this meeting to afford those present an opportunity to ask questions, or criticise any statements that have been made by your committee, and in the event of criticisms or questions I will attempt to reflect at least the opinion of the committee from the chair on any particular division or subdivision of this subject.

I should be very glad to hear from anyone present. I invite discussion. I should like to ask Mr. Whipple, who is a member of the committee, if he will start the discussion and give any light on this particular subject that I have failed to give in my brief remarks.

REPORT OF COMMITTEE ON MARKETING

FOREWORD

In presenting this paper, your committee desires to explain they were requested by our President to present a paper on the general subject of marketing, sub-divided under two headings:

(1) Vital Factors in Marketing.
(2) Elements of Efficiency Lacking in Present-Day Marketing Methods.

We have made divisions and sub-divisions of this subject, and in their development have received assistance from others outside of our committee, hoping to present this subject in a manner not only of interest but profitable to those who are desirous of giving this subject further study.

Your committee realizes that much good work has been done along similar lines, and that our own committee in the past has very well handled the similar subject, Advertising, Selling and Distribution, but we do not think we are intruding on the work already accomplished, in accepting the request given us to deal with the subject assigned. We believe we should better relate the salesman on the firing line with the manufacturing plant and the product produced than has been done by previous papers.

The underlying thought being that the salesman is selling units of service represented by the product he is attempting to sell, and to do this properly he must be made intelligently interested in everything pertaining to the making and developing of his product and the motive of his company in marketing same.

VITAL FACTORS IN MARKETING

General Headings

I. *Promotion—Prespectus.*
II. *Initial or Partial Organization.*
III. *Selection of Manufacturing Site.*
IV. *Buildings and Equipment.*

V. *Purchase of Materials.*
VI. *Manufacture of the Products.*
VII. *Permanent Organization—Production and Finance.*
VIII. *Man-Power.*
IX. *Cost System.*
X. *Active Selling—Organization and Marketing Operation.*
XI. *Credits.*
XII. *Collections.*
XIII. *Handling of Inquiries, Orders, Complaints, Adjustments.*
XIV. *Service.*

General and Sub-headings

I. *Promotion—Prospectus.*
  a. Purpose and general plan of business.
  b. Product; its nature.
  c. Existing demand.
    1. Due to natural expansion.
    2. Due to changed conditions.
    3. Due to replacements.
  d. Created demand.
    1. By salesmanship and advertising.
    2. By force expansion.
  e. Patents.
  f. Amount of capitalization.
  g. Amount of treasury stock for initial sale.
  h. Initial selection of officials.
  i. Obtaining a charter.
  j. Obtaining franchises.
  k. Sales of stock.
  l. Stockholders' election of officials.
  m. Considering competition.
  n. Considering substitutes.

II. *Partial Organization.*
  a. Patents.
  b. Design.
  c. Studying existing demand; what buyers want; why?
  d. Studying the demand to be created.
    1. Where? who? why? when?

III. *Selection of Manufacturing Site.*
  - a. Its relation to the raw material.
  - b. Storage space.
  - c. Shipping facilities.
  - d. Its relation to centers of distribution.
  - e. Its relation to freight rates.
  - f. Its relation to the labor supply.
  - g. Regional conveniences.
  - h. Its relation to coal and other sources of power.
  - i. Consideration of expansion.

IV. *Buildings and Equipment.*
  - a. Regard for proper degree of permanence.
  - b. Suitability to the product.
  - c. Departmental relations to progress of work.
  - d. Expansion without undue re-arrangement.
  - e. Consideration of labor.
    - 1. Health.
    - 2. Comfort.
    - 3. Attractiveness.

V. *Purchase of Material.*
  - a. Relation of price to economic utility in product.
  - b. Relation of quality to product to be manufactured.
  - c. Relation of quantity purchase to price discount and probable price fluctuations.
  - d. Consideration of reciprocal business.
  - e. Consideration of purchase of finished units or parts that may serve as elements in the manufacturer's product; reputation of such purchased parts.

VI. *Manufacture of the Product.*
  - a. The use of the product.
    - 1. Essential.
    - 2. Expedient.
    - 3. Luxury.
  - b. Quantity of sale.
  - c. The quality of the product.
  - d. The consideration of capital.

        1. Accumulation of stock.
        2. Quantity manufactured.
        3. Tools and standards.
    e. Design.
        1. Creative; appropriate to use in industry.
        2. Patents and their relation to control.
        3. Appropriate to tools.
        4. Appropriate to the market.

VII. *Permanent Organization—Production and Finance.*
    a. Creation of departments.
    b. Relation of working force to the product.
    c. Relation of productive to non-productive labor.
    d. Selection of trade channels and agents.
    e. Location of district offices and sub-offices.
    f. Publicity and advertising. General policy.

VIII. *Man-Power.*
    a. Native ability—natural resourcefulness.
    b. Education—general, cultural, technical.
    c. Work and aptitude for the particular job or service to go hand in hand.
    d. General training (limited) for the company's entire activities: perspective, policies, layout, etc.
    e. Special training for knowledge of "group" products.
    f. Ultra training for knowledge of a particular product.
    g. Reasonable supervision and stimulation.
    h. Placing of responsibility.
    i. Deserved and prompt recognition and promotion.
    j. Selection and training of trainers.
    k. Proper selection and training of understudies.
    l. Training for officials.
    m. Red Tape vs. necessary system.
    n. Putting efficiency into "conferences" through adequate preparation and methods of dispatch.
    o. Welding individuality with cooperative effort.
    p. Pay promising apprentices enough to make them *willing* to be learners until they fully know the duties that road representation will involve.
    q. Intensify training but do not abbreviate it; there is a difference.

IX. *Cost System.*

Factory and estimated marketing administrative and overhead costs to be worked out with detailed accuracy after the necessary experience.

X. *Active Selling—Completion of Organization for Marketing.*

- a. Selection of salesmen.
- b. Training of salesmen.
- c. Knowledge of product.
- d. Knowledge of application of product.
  - 1. Essential.
  - 2. Expedient.
  - 3. Luxury.
- e. Knowledge of markets—national and local competition.
- f. Knowledge of needs vs. desires of customers—professional.
- g. Recognition of our own limitations.
- h. Relation of present to future; judgment in the use of time and effort.
- i. Knowledge of cost and price—profit, turn-over.
- j. Tact.

XI. *Credits.*

XII. *Collections.*

XIII. *Handling of Inquiries, Orders, Complaints, Adjustments.*

XIV. *Service.*

- a. Competent.
- b. Responsive.
- c. Sufficient.
- d. Tactful.

I. *Promotion—Prospectus.*

- a. Purpose and General Plan of the Business.
- b. Product; its nature.
- c. Existing Demand.

   1. Due to natural expansion.
   2. Due to changed conditions.
   3. Due to replacements.
- d. Created Demand.
   1. By salesmanship and advertising.
   2. By force expansion.
- e. Patents.
- f. Amount of Capitalization.
- g. Amount of Treasury Stock for Initial Sale.
- h. Initial Selection of Officials.
- i. Obtaining a Charter.
- j. Obtaining Franchises.
- k. Sale of Stock.
- l. Stockholders' Election of Officials.
- m. Considering Competition.
- n. Considering Substitutes.

II. *Partial Organization.*

- a. Patents.
- b. Design.
- c. Studying Existing Demand; What Buyers Want; Why?
- d. Studying the Demand to be Created. Where? who? why? when?

As to "Promotion—Prospectus" and "Partial or Initial Organization" your committee feels that the sub-headings are sufficiently suggestive for incorporation in the specific work entrusted to it. These problems belong more properly to the fields of finance and economics and their treatment has been standardized, or at least ably handled, in many publications on the subject.

III. *Selection of Manufacturing Site.*

a. Its Relation to the Raw Material.

It is essential that the selection of site should have the proper relation to the source of supply of the raw material. In some industries this is important and may be the determining factor.

b. Storage Space.

Storage space for the accommodation of raw material must be considered. This may be relatively small in some cases, while in others it may be relatively large. When all things have been considered it may have been advisable to locate the plant at some distance from the raw material. If so, storage space must be sufficient to tide over a period when shipments of the raw material cannot be made.

c. Shipping Facilities.

Shipping facilities must be convenient and sufficient to handle the product as near as possible on direct routes to the main distributing centers.

d. Its Relation to Centers of Distribution.

The plant must therefore be convenient, or within easy reach, as stated in (c), of the centers of distribution. Otherwise it may be necessary to provide other means such as warehousing in order to overcome this disadvantage.

e. Its Relation to Freight Rates.

Interwoven with the factors expressed in (c) and (d) must be the knowledge and consideration of freight rates. Shipping quantities and rates obtainable may lead to warehousing.

f. Its Relation to the Labor Supply.

The selection of the site should take into consideration the particular class of labor that may be required and whether it can be obtained in that region in sufficient quantity and at a reasonable wage.

g. Regional Convenience.

With this certain class of labor must be considered the regional conveniences to supply the wants of their class—stores, amusements, housing, etc.

h. Its Relation to Coal and Other Sources of Power.

Its relation to coal supply or other source of power and the cost of such power per horse-power may have considerable weight in determining the site.

i. Consideration of Expansion.

Consideration should be given to the possibility of necessary future expansion, otherwise severe congestion may result at a critical time in marketing the product. Thus the cost of product will be increased and its delivery delayed. A forced move of plant or forced purchase of added accommodations at such a time might be disastrous.

IV. *Builings and Equipment.*

a. Regard for Proper Degree of Permanence.

The buildings and equipment should have the proper degree of permanence. If the product to be marketed is uncertain or subject to periodic change, demanding frequent changes in tools and designs, or if a permanent structure and equipment are not necessary, the fixed charge resulting should be in the proper proportion.

b. Suitability to the Product.

These should also be suitable to the product. In some industries scarcely any buildings are necessary, rough covering being sufficient. This is perhaps an extreme case. As an example: the equipment for producing, pumping and storing oil may be crude, while the buildings and equipment for refining it may be finished and quite elaborate.

c. Departmental Relations to Progress of Work.

d. Expansion without Undue Re-arrangement.

Whatever the buildings and equipment may be, the relation of the several departments or processes through which the work must go should be carefully thought out and the plant arranged to the best advantage in order that the expense of unnecessary re-handling may be avoided. At the same time reconsideration should be given to contemplated future expansion so that undue re-arrangement of the plant sections or inefficient routing of work will not be necessary.

e. Consideration of Labor.

1. Health.
2. Comfort.
3. Attractiveness.

Labor is having more and more consideration in the plans made for buildings and equipment. The ability to get and retain the class of labor necessary to some classes of work may depend on:

1. Provision for the general health of the employe by providing healthy working conditions or by improving somewhat unhealthy conditions to the fullest and most evident extent; by arranging sufficiently frequent shifts of gangs, thus not holding an individual on a task for a period which science has proven to be harmful; by providing for light and fresh air; by guarding him against injury through mechanical safeguards and plain instructions.
2. Provision for the comfort of the employe. This may include all and more of the creature comforts to which his particular class is accustomed.
3. Attractiveness in his surroundings and in advantages offered which may not be to him easily obtainable, such as provision for possessing a home, means by which he can extend his education, and possibility for his children to obtain employment in the company with which he is connected.

V. *Purchase of Material.*

a. Relation of Price to Economic Utility in Product.

In the purchase of material the relation of its price to its economic utility in the product will have its effect in marketing that product. If the material is too low grade for its application it may be necessary to quote a lower price in the market than the saving in the purchase of that particular component amounts to. Again certain material may be too refined or better than its use in the product warrants, in which case money is lost in the sale when it might as well have been gained, especially if this high grade component cannot assist in the demand for the product. Poor material may hamper the profits in another way—in that it may require greater care or more expensive operations in manufacturing than the difference between it and a better grade, in cost.

b. Relation of Quality to Product to be Manufactured.

The quality of the material with relation to the product to be manufactured will, in some industries, determine the ability to market the product in the field in which you are prepared to market. For instance, a fine grade of marble or slate in a panel on which is mounted apparatus for the electrical control of a motor in a steel mill, would not assist in the sale, while such material in a power-house switchboard might be one of the requirements of the specifications.

c. Relation of Quantity Purchase to Price Discount and Probable Price Fluctuations.

The relation of quantity purchase to price discount will be reflected in the ability to market at maximum profit and in meeting severe competition. But in cases where material is subject to frequent and violent fluctuations, great care must be taken in purchasing and intimate knowledge of the market is an essential.

d. Consideration of Reciprocal Business.

Consideration must frequently be given to reciprocal business in the purchase of material. For this reason it may be advisable to buy the same material from several makers even at a variation in price. For instance, if we were to purchase all of a certain material from one maker we could not reasonably expect other makers to favor us with an order for the equipment of their plants with our manufactured product.

e. Consideration of Purchase of Finished Units or Parts that may Serve as Elements in the Manufacturer's Product; Reputation of such Purchased Parts.

It is sometimes necessary or economical to purchase an entire component part of a piece of apparatus from another maker. In such case the quality of that product is of prime importance and must be on an equality with the complete apparatus being marketed. Such purchased parts must bear a reputation at least equal to that of your own product.

VI. *Manufacture of the Product.*

a. The Use of the Product.

1. Essential.
2. Expedient.
3. Luxury.

The use of the product as a factor in marketing should be considered in the manufacture of the product. For instance, let it be considered that the product will have to be marketed as

An Essential. In the manufacture of many essentials it is not necessary to consider more than the generally accepted usefulness of the article, bending most of the effort on standardization of methods and production. We might consider a broom as an essential.

An Expedient. (Profitable; that which promotes or advances.) Here the article must have a little more refinement and certain points must be given special attention for the reason that these points come under close scrutiny and assist in the sale of the article. While a broom might almost sell itself outside of an offhand test for stiffness, a carpet-sweeper with which you are attempting to displace the broom, must be more carefully made, must be more attractive and better finished, must demonstrate its time and labor-saving qualities. It must be a profitable investment and show a step in advance in the art of housekeeping.

A Luxury. Such an article must, as a rule, be made with a view to finish and perhaps art. It must have "lines" and "style." Electric heating utensils would, under certain circumstances, fall in this class. They must be artistic as well as useful and in being artistic they must approach in workmanship and appearance the family plate.

b. Quantity of Sale.

The quantity of sale has its bearing on marketing as it directly affects the cost of manufacture and the conditions under which the product is made. If the quantity is small, the different processes through which the product must pass cannot be economically organized. Cheap and inexperienced labor cannot be well used on the less important part of the work, if some of the work requires a high grade mechanic. Usually, in such case, the most expensive man does the complete job or the greater part of it.

c. The Quality of the Product.

A high relative quality of product manufactured is of great importance in marketing that product. Recognized high ideals in workmanship, stimulated by close and fair inspection and appreciation of good work will bring this about.

d. The Consideration of Capital.
    1. Accumulation of Stock.
    2. Quantity Manufactured.
    3. Tools and Standards.

Consideration of capital available has a bearing on the manufacture of the product and its marketing, in that it may determine:

> The accumulation of stock. Stock can be accumulated and held ready for shipment at the proper season. This may be an advantage in purchase and use of raw material as well as labor.
>
> Capital for investment in material and labor will allow of quantity manufacture under highly organized conditions.
>
> Investment in tools—jigs, dies, fixtures and machine tools affect the cost, leading to the production of standard, interchangeable parts and standardization of methods. The advantages thus obtained in marketing will bring quicker and better returns than the slower method of waiting for the sale of the product to bring about the best methods. This presupposes that good judgment has been used in the selection of the article to be marketed.

e. Design.
    1. Creative; Appropriate to Use in Industry.
    2. Patents and Their Relation to Control.
    3. Appropriate to Tools.
    4. Appropriate to the Market.

Design, the fundamental of the created product, may bring to naught the best efforts of the Manufacturing and Sales Departments to market the product. To be effective, among other things it should be:

> 1. The designer, the creator, should be one experienced in and even gifted in that particular field. A designer of structures and of what we might call the general plan or scheme is usually a poor designer of details. The designer may fail in one of many ways; he may fail to grasp the fitness of things; he may introduce complication where simplicity is the keynote.

2. The control of fundamental patents, and designers who can imagine and create systems and means of accomplishment of purpose in new and better ways, leads to a distinct advantage over competitors in marketing.

3. Designs, to be economical, must be appropriate to tools. That is, a designer not acquainted with the machine-tool limitations of his manufacturing department, may make a poor decision as to shape or machining of a part. The worst feature of this may be that another shop has to make it and the best that can result is a production by a most expensive means in his own shop. Co-operation, too often lacking, between designers and shop superintendents, will avoid such conditions. Designers should so design the parts that cheap tools can be made to produce them and should quickly recognize when tools are applicable. Otherwise an advantage in marketing is lost.

4. Designs should be appropriate to the market and should keep pace with changing conditions. A coffee perculator, an electric heater or toaster, should be designed, in outline at least, by one of artistic sense. Probably such articles sell best on "looks" better than on efficiency or life. There was a time when electric motor manufacturers in general went to the expense of semi-finishing (filling and carfully painting) the frames of the motors, regardless of their application. That has changed and it is only in special applications that any but ordinary finish is given. Again, a design of apparatus that would be acceptable for use in an industrial plant would not be accepted for application on board ship, for obvious reasons. The lines and finish of a truck would not be at all acceptable in a carriage.

VII. *Permanent Organization (Production—Finance—Marketing).*

a. Creation of Departments.

The creation of departments should be sufficient to take care of all necessary and distinct branches of work both for manufacture and for sale. Such departments should be held to a minimum number, otherwise the organization may become complicated and unwieldy beyond the actual needs of handling the business and the product. Thus price and delivery are seriously affected.

b. Relation of Working Force to the Product.

The relation of the working force to the product may be out of proportion, especially when many departments exist, the absolute need of which is questionable. This would result in rehandling and duplication of work, especially of records, making the system cumbersome and slow, again affecting price and delivery.

c. Relation of Productive to Non-productive Labor.

The relation of productive to non-productive labor assumes a dangerous ratio when poor organization exists, as referred to in (a) and (b) and must have its effect on profits.

d. Selection of Trade Channels and Agents.

In relatively small organizations reliance must be placed in agents for the marketing of the product. In large organizations agents must supplement district offices of the company. Great care must be had in the selection of such agents. Their ability to handle your product; their standing or strength in their district must be considered. Though not now strong, they may have latent power which with your reputation and their own may bring better results than to tie up with an established, though by your standards, a less reputable agency.

e. Location of District Offices and Sub-offices.

The location of the district offices of the larger organizations and their relation to the territory they are to control, must be well thought out. In some lines, even the street and the building in which the office is located may greatly affect the class and amount of trade possible.

f. Publicity and Advertising. General Policy.

In most lines publicity and advertising, coupled with efficient individual salesmanship, supply the life blood to the enterprise. It is the punch that spells success and is too little appreciated even in this advertising age. The advertising and sales department can never cooperate too closely. One should know intimately what the other is doing and each should have a sympathetic interest in the other's efforts.

VIII. *Man-Power.*

a. Native Ability—Natural Resourcefulness.

Every man's native capacity has its individual limitations. These lmitations should be studied. Too many men are placed in positions of responsibility too heavy for their natural resourcefulness and inherent comprehension.

b. Education—General, Cultural, Technical.

Having selected men of the adequate native capacity for the particular positions to be filled, the degree and kind of education they have acquired are of equal, sometimes greater, importance than the matter of native capacity itself. A certain degree of general education should be a requirement for every man in every particular job. Cultural education, of various degrees, is essential in many positions, if efficiency is to be achieved. In many positions technical education holds the position of highest consideration, but technical men very often limit their success and usefulness by too much indifference to general and cultural knowledge. This tendency to contentment in narrowness will continue unless employers demand higher standards of general knowledge, technical knowledge being equal. The best stimulation, through this result, is to give preference in recognition and promotion to men of general knowledge, if their technical knowledge is equal.

c. Work and Aptitude for the Particular Job or Service to go Hand in Hand.

Nature's fundamental laws and elements are singularly few, yet the variations of these elements are countless and constitute the infinite omnipotence of the Creator. Every variation has a specific purpose. Man's mentality is more varied than the leaves of the forest and each human being has a persistent tendency, inclination or aptitude for certain lines of endeavor in which his nature will find the easiest and best expression within his limitations. Fit the job to the man, not the man to the job; it is easier and more profitable in the end. The selection of the job for the man requires scientific treatment, the nature of which is a special and new study and beyond the scope of this paper, and it deserves special treatment.

d. General Training (limited) for the Company's Entire Activities: Perspective, Policies, Layout, etc.

Every industrial training course should embody, at least, a limited instruction upon the company's entire manufacturing and distributing activities, giving its general policies relating to the various coordinated departments. Breadth of view is as essential to the growth and progress of the individual as is intensive training for specific duties. Not until each department realizes the coordinate value of every other department can the family spirit of business loyalty and pride stamp the institution as a whole, and give to it proper sequence and smoothness of action.

e. Special Training for Knowledge of "Group" Products.

f. Ultra Training for Knowledge of a Particular Product.

Every company that handles a general line of products of a broad trade classification divides, subdivides and subdivides again certain products, requiring the general engineer and salesman, the specialist and the super-specialist. Often an article is not of sufficient volume of sale to demand more than one or a few super-specialists, hence the economic advantage of training specialists for certain "group" or related products or particular products which a certain class of trade utilizes.

The general salesman in such a company is usually one who handles certain customers, rather than certain lines or classes, hence he must have a working acquaintance, though not specialized, with the company's entire line and policies.

Special training for each such activity should be formulated and made both a coordinate and a specific educational function.

g. Reasonable Supervision and Stimulation.

h. Placing of Responsibility.

Guidance, counsel, and a stimulating business atmosphere should characterize the training and after-training policies of the company. Too much supervision kills initiative and atrophies the sense of high personal responsibility. Direct the men, but do not "wet-nurse" them. A man never finds himself until he encounters and accepts responsibility.

i. Deserved and Prompt Recognition and Promotion.

The bigger the institution the greater the necessity of a policy of non-discrimination. However, men are not "peas in a pod," and intelligent differentiation is as necessary to progress as is non-discrimination. While we do not want an institution of business celibates, yet in the union of the individual to the business family, his individuality should not be submerged. Prompt recognition and deserved promotion should have the just action of the company regardless of sex, age, or time of service.

j. Selection and Training of Trainers.

Industrial teachers should, as a rule, be home-grown. However, simply because a man knows and has teaching aptitude, or because he is fitted for nothing else, is no reason why the educational work of a great institution should be placed in such hands without adequate and specific training for the work. Some of the best trainers of salesmen have never engaged in the work of selling, but it is difficult for such a teacher to command the confidence and respect of his pupils. Non-technical men should not attempt to teach technical matters; bright young men may be used as understudies, or assistant teachers, but they should not be put forward as leaders and authorities.

k. Proper Selection and Training of Understudies.

Every man holding a position of any considerable importance should keep under training one or more understudies. The failure to do so often proves very troublesome in case the principal is absent for any great length of time for any valid reason, resigns, is discharged, or dies.

l. Training for Officials.

This is a delicate subject, but many officials are innocently ignorant of some of their shortcomings because subofficials have not the insight or courage to persuade them to better qualify for the judgments and decisions they must officially render. Officials should more largely base opinions on the facts presented by the man in intimate touch with the particular work.

m. Red Tape vs. Necessary System.

Involved, cumbersome and time-consuming systems are more common than efficient ones. Systems are essentially experiments, and only the tryout can determine their value. In as simple a matter as filing, many large companies have a hopelessly involved red-tapish method that even the author can not make work. Salesmen are busy long hours each day; by vocation, temperament and necessity they are poor subjects for the unraveling of red tape. They need guidance, but a simplified system only should be exacted of them. If formidable statistics are needed, employ statisticians. If too much statistical and investigation work is demanded of the salesman, his energy, most of which should be directed to actual solicitation, is partially expended in such research work.

n. Putting Efficiency into "Conferences" through Adequate Preparation and Method of Dispatch.

Conferences are a "fad" of modern invention. While necessary, no function requires more judgment to produce effectiveness than this form of "indoor sport." When, and only when, preparation is practiced, conciseness and dispatch exercised, will this new feature of business become economically efficient.

o. Welding Individuality with Cooperative Effort.

Treated under (i).

p. Pay Promising Apprentices enough to make them *willing* to be Learners until they fully know the Duties that Road Representation will involve.

q. Intensify Training, but do not abbreviate it; there is a difference.

Youth is impetuous, Colleges fail to make men think, because they fail to make thinking pleasurable. We are strongly inclined to do what we desire to do, not what we ought to do. When a student leaves college his desire is to abandon the task of systematic and regular study. To induce him to continue to engage in mental work he must be tactfully and convincingly persuaded of his limitations; he must be induced to feel an interest in further study; he must find a money inducement to tackle the new mental task. If he has been properly selected, he is worth further and high training. It costs less, ultimately, to train in the shop, office and industrial school than to train through experience. Poor workmanship in the shop, poor correspondence, poor salesmanship with heavy road expenses, and the creation of unfavorable opinion cost, ultimately, many times more than adequate initial training. Train the right men thoroughly and intensively, but do not minimize the training to blindly save initial expense. The best and most willing young men and women will gravitate to the companies that train the best and pay the most during the apprenticeship period. Trained man-power is the ultimate answer to the way to high and assured preeminence.

IX. *Cost System—Factory and estimated marketing, administrative and overhead costs.*

To be worked out with detailed accuracy after the necessary experience.

We might liken the cost system results in an organization to the temperature condition of the human body. If normal, everything is well; if above or below normal, the patient is sick. One of a hundred remedies may be required, depending on the ability of the diagnostician to locate the cause of the trouble. This subject is so important, so broad, and so much good matter is available, that it is not necessary to do more in this paper than call attention to it.

X. *Active Selling (Completion of Organization for Marketing).*

a. Selection of Salesmen.

The selection of the salesmen must be as near perfect as possible. They being the individuals who come in personal contact with the buyer, are the personality of the organization they represent. The failings of men in other activities of the organization may be hidden, or at least disguised and even contained within the four walls of the factory or office building, but the salesmen are free to move about. You may train them in some things, in many essentials, but the fact remains, "You cannot make a silk purse out of a sow's ear." Select the men with the foundation and build upon it.

b. Training of Salesmen.

Having selected the men with the suitable foundation, you can proceed to build your own structure; you can even tear down any present structure to the foundation and build anew and in confidence. This training of selected men should be given by the best salesmen. The result will be, "Like master, like man."

c. Knowledge of Product.

A salesman should know his product, and know when to use that knowledge. The more thoroughly he knows his product, the better he will be. Well equipped in salesmanship, he would be as a one-legged man in a race if he did not understand more of his product than was evident even to a trained observer. He must point out and describe the unseen things at the right time.

d. Knowledge of Application of Product.

To attempt to sell without a knowledge of the application of the product would remove half the joy of selling. It would be an unusual man who coüld take any product and do it justice before a customer. It requires a different state of mind to properly present:

1. An Essential.

Such an article would doubtless be sold on the basis of quality and price.

2. An Expedient. (Def. Profitable; that which promotes or advances.)

Such an article requires an intimacy which allows of a logical presentation of its profitable virtues. An automatic screw machine might be an example. A knowledge of the customer's business, his present methods, uses of product, costs and conditions, and the demonstrable value of this machine to him in money.

3. A Luxury.

Selling such an article requires a temperament suited to it. The class of product is usually designed on artistic lines, and its present form is perhaps based on interesting tradition. The lines of Chippendale or Morris would be nothing in the life of a one-time shoe salesman.

e. Knowledge of Markets—National and Local Competition.

To insure best results in selling there must be a thorough knowledge of all markets, what national and what local competition is being encountered in each district. This is particularly essential where the amount of any product offered for sale is limited and where production cannot be rapidly expanded to meet trades' needs. A thorough knowledge of conditions at all points of the market insures the best returns on products and a minimum selling cost.

f. Knowledge of Needs vs. Desires of Customers—professional counsel.

A knowledge of the needs of a customer combined with a knowledge of the apparatus may be the means of drawing him away from his desires by gentle and tactful persuasion. It may even result in a substitution of your apparatus for that of your competitor. It may save your customer much money. If well presented it will certainly gain his confidence, and at least his future consideration.

g. Recognition of Our Own Limitations.

The salesman's recognition of his own limitations is important. Negotiations are liable to reach a stage at which he must call for technical assistance or he must "bluff." He may not recognize either his technical limitations or his limitations as a "bluffer." In either case he limits his ability to sell his product.

h. Relation of Present to Future—Judgment in the use of time and effort.

A small sale now, at considerable expenditure of effort, may result in a worthwhile future relation. Sound judgment must determine this in order that valuable time and effort be not frittered away on prospects that can never materialize.

i. Knowledge of Cost and Price—Profit, Turnover.

Knowledge of costs of production under conditions existing in his particular organization is a valuable guide to a salesman, if used in a broad way, to form judgment as to whether it is wise or profitable to push certain sales suggested by a customer. Many salesmen raise false hopes in the customer's mind, applying to the factory for price and delivery on a device which is unprofitable to the factory at any reasonable figure. Such negotiations generally come to naught and relations might be better had they been tactfully turned aside. The profit and price are usually established by the proper department and are based on very definite and known qualities. One of these is investment and return. Where the capital invested promptly returns with profit, it can be put back into the business several times a year. Perhaps small profits are to the best advantage in such cases, and yet perhaps large profits are obtainable. These conditions are studied by specialists in that line at headquarters, and salesmen should not be, and are not generally, allowed to change a price without proper approval.

j. Tact.

Tact is a valuable gift, seldom acquired. Exercise of it always holds the situation in hand—win or lose. In the long run the possession of tact is a big asset; it provides an atmosphere in which it is always pleasant to do business. If there is such a thing as perfect tact, its possessor cannot be forgotten.

XI. *Credits.*

This subject and its application we all know too little of. A salesman need not know credits sufficiently to aspire to the Credit Manager's job, but he should know them well enough to tell a good from a bad statement or an indifferent one. Lack of knowledge of credits, particularly the basis of extending credits, sets the stage for many embarrassments. A salesman can be taught to talk as freely and intelligently on credit matters as he does on any other feature of the sale. Too often he approaches the subject as if it were something distasteful, at least something to get through with quickly, leaving the impression that credits are out of his line and the whole subject solely the function of the Credit Manager.

XII. *Collections.*

Remarks similar to those on credits apply to collections. A salesman with the proper interest in his duties approaches the collection of an account with the same tact and frankness he displayed in negotiating the sale. Too few salesmen understand this. Just as they believe that credits belong to the Credit Manager, they believe that collections belong to the Collection Manager. Collections are just as much a function of the salesman's part in marketing as are the sales he negotiates, and a thorough study and understanding of the subject and his relation to it, should be the aim of every salesman.

XIII. *Handling of Inquiries, Orders, Complaints, Adjustments.*

The handling of inquiries, orders, complaints and adjustments should be given special care by the salesman. The inquiry and the order are apt to receive the best attention. In the case of complaints and adjustments, the salesman is the customer's representative before the Service and Claim Departments of his company. If the complaints are reasonable and just the salesman should be most active in seeing to it that the faults are promptly remedied and that fair adjustment is made.

XIV. *Service.*

Back of all economic service is *trained* native ability. Service involves more than courtesy, prompt delivery, and the many little elements of an appreciative regard and obliging spirit. It often means high counsel tactfully presented, intricate analysis of conditions, and technical advice as to promotion, finance, design, application, etc. Thus the service should be competent, responsive, sufficient, tactful.

a. Competent.

To be of any use to the customer, service must be competent. Such service promotes marketing, no matter what form the service takes.

b. Responsive.

Responsive service is the real kind of service. Not to-morrow or the next day, but now or at the time the customer needs it.

c. Sufficient.

Sufficient service can leave no room for complaint, and results in a well-done service as compared with slovenly service.

d. Tactful.

Tactful service does not over-serve to the point of embarrassing obligation.

ELEMENTS OF EFFICIENCY LACKING IN PRESENT-DAY MARKETING METHODS

I. *Standardization.*

a. Advantage to consumer.
b. Advantage to maker.
c. Limits.

II. *Preparations for Marketing.*

a. Closer acquaintance between leading men.
b. More careful study of the tendencies in trade.
c. Analysis of product for sale.
d. Continued and careful education of salesmen.
e. Better knowledge by engineers of new and fertile fields for application.
f. Care in selling undeveloped apparatus without distinct understanding between those interested.
g. Advertise real facts.
h. Avoid false stimulation of marketing.

III. *Associations.*

a. Establishment of societies.
b. Unformity of methods.
c. Elimination of secrecy.
d. Unification of effort.

IV. *Personnel.*

a. Greater individuality.
b. Study of individuals.
c. Placing of individuals.
d. Prompt recognition.

I. *Standardization.*

a. Advantage to consumer.

Standardization of the product of the several makers would be of considerable advantage to the consumer. In the case of machines and structures, such features as do not affect the essentials of design or the essentials on the basis of which the product is to be applied, should be standardized so that all makers could eventually follow the same dimensions and outlines. In the case of structures, such as ships, there should be standardization of units of capacity and design for trade necessities. In the case of materials of construction, shapes and other materials should be standardized in order to avoid as much as possible specially designed materials.

b. Advantage to maker.

The advantage of this would also be felt by the maker, establishing certain fixed fundamentals around which designs can be built.

c. Limits.

The establishment of such standards should not go beyond reasonable limits. It should stop before it reaches the point of interference with original thought covering points in design which can legitimately be considered as influencing the sale. It should not restrict the development of the art.

II. *Preparations for marketing.*

a. Closer acquaintance between leading men.

A closer relation between the leading men of organizations continually dealing with one another would lead to a better knowledge of contemplated activities which are not generally discussed outside that circle until the orders are placed or ready to place. This would give the executive whose company is in a position to bid an opportunity to at least pave the way and result in a better condition all around, and bring the buyer and seller closer together.

b. More careful study of the tendencies in trade.

Poor analysis of tendencies in the trade lead to accumulations of stock which are expensive to hold, or, if disposed of from necessity, have a bad effect on that line of business in general.

c. Analysis of product for sale.

The product for sale should be better and more thoroughly analyzed. This should be done by experts who are able to reduce the advantages of the product and the reasons for the existence and presentation to the lowest terms. Too often the salesman is left to his own devices and methods of analysis and presentation. Much valuable time is thus thrown away. The data should be given to the salesman in a form which does not require a great amount of study, as his available time for such matters is generally limited to short intervals and he cannot be expected to digest a treatise.

d. Continued and careful education of salesmen.

A good salesman is also a good listener. The right teacher can tell him the salient technical points of a product, and he is glad to listen and quite able to understand and intelligently repeat. But it is difficult to get him to read reams of data and descriptions. They usually reach him at inopportune times, and are filed for reference, and even their existence forgotten. Much could be said and done on this subject, and the least of this is not in the selection of the man to do the talking.

e. Better knowledge by engineers of new and fertile fields for application.

To try to borrow all the other fellow's knowledge concerning the application of your product, especially when the other fellow is your immediate customer, does not assist in marketing relations. He is not disposed to teach you what he believes it is your business to know and that which he spent his good money to earn. He is better disposed toward the manufacturer who was interested enough to spend time and money in a study of the work and conditions before seeking orders in the field. We can reasonably expect small, irregular or unusual developments to pay in advance or with the order, but the big fields require study and investment before the business appears.

f. Care in selling undeveloped apparatus without distinct understanding between those interested.

Great care should be exercised in selling an undeveloped product without a clear understanding with the customer that it is as yet undeveloped and subject to at least the usual aftermath of attention. Otherwise the customer is apt to believe it will in all respects be up to the standardized product, while, as a matter of fact, it is subject to further development in the field.

g. Advertise real facts.

Sufficient care is not used in advertising. Advertising is a substitute for a call on a prospective customer. The best salesman would not approach that customer with a set of stereotyped hackneyed expressions of indifferent English. In general, the expressions in advertisements are too superlative, so apparent as to discount the real facts.

h. Avoid false stimulation of marketing.

False stimulation is bad for marketing. Such methods as rewards, bonuses, price cutting and hysterical advertising may assist an individual, but they do so at the expense of the general trade.

III. *Associations.*

a. Establishment of societies.

Societies should be established, but greater care should be used than is now the case. We believe that many existing societies with similar interests might be more closely allied in order that their efforts can be better coordinated.

b. Uniformity of methods.

Uniformity of methods will be the result. The best methods will be selected from the experiences and efforts of such coordinated work.

c. Elimination of secrecy.

So-called secret methods should be eliminated as far as possible, and would be by this means. A free discussion would lead to the general adoption of the best methods. Even patented methods could be more freely traded in—not only the license, but also the purchase—for a reasonable sum of the actual results of development as so far carried on by the holder of the patents. The old method, which still exists to some extent, of excluding all competitors from a plant would be followed by free access and lead to the observation of methods in the same way that free discussion leads to exchange of ideas. This may appear too ideal to some, but it seems logical. If we can exchange ideas, why can we not exchange methods?

d. Unification of effort.

This would lead to a unidirection of effort, producing the best results, and instead of fighting one another on points of little or no importance, the force would be entirely exerted in overcoming the real obstacles to progress.

IV. *Personnel.*

a. Greater individuality.

Greater individuality will be required of the salesman in marketing the product under conditions herein referred to. The products will not always sell themselves. It will be the salesman who will do the selling. Salesmen must be selected with greater care who possess the qualities necessary for the particular type of selling.

b. Study of individuals.

A closer study of the individual salesman must be made. In some large establishments it is the custom to take young men and give them a very careful course of training, at the same time making a study, by observation, of the individual, to determine what particular field he is best fitted for. Unfortunately, the work too frequently stops here.

c. Placing of individuals.

Placing the man is not so frequently studied. That he is placed in a certain line of work that suits his characteristics and training is right, but there seems to be no thought as to whom he is placed with. Some people can't work together any better than some animals. After having been placed properly, as far as the organization is concerned, no further thought is given as to whether that turns out to be the best place or not. His development may depend entirely too much on the opinions of an individual. Business conditions may change. The man himself will probably change, perhaps developing faster along other and unforeseen lines than along the line in which he was placed. Yet no attention may be given to that development. As long as he performs his present duties as well as, or a little better than, the average man in such positions, he is satisfactory to the individual who is his superior. He may become dissatisfied and be allowed to leave that company. Some continuous follow and observation by those competent to observe should be carried on.

d. Prompt recognition.

Prompt recognition of the latent ability of the individual will spur him to greater effort, but it requires a gifted man to be able to distinguish between the real and apparent qualifications.

Mr. T. H. Bailey Whipple (Westinghouse Electric & Manufacturing Company): I do not think it necessary, Mr. Chairman, for me to add anything to your remarks in the way of a general statement concerning the work of your committee.

I believe that this report differs, somewhat, from reports on this subject with which you and others present are likely familiar, in that it treats manufacturing problems to a greater extent than it does purely merchandising problems. We felt that for the sake of novelty, if for no stronger reason, that a new angle of approach would be best, because the subject is so big that if we viewed it from every angle of consideration, its treatment would mean several large volumes instead of a report within the bounds of this occasion.

It is, possibly, better for me to hear the discussion of others, and if there is anything not clear to them, to try to interpret the committee's meaning. However, I claim only a modest part in the making of this report and some of the points, involving the manufacturing and sale of complicated and highly refined engineering products, I may not be able to clear up to the entire satisfaction of those who may need more light on the subject.

Chairman McLeod: We shall be glad to hear from anyone at all who has anything to say on this subject, which I think is rather an important one, and one which should interest, as I have no doubt it does, everyone who is called upon and connected in any way with this particular subject.

Mr. M. D. Bell (Washburn-Crosby Company): A good many of the text-books on salesmanship refer to the use of suggestion—the practice of making your customer believe that he needs the goods, whether he is conscious of it at first or not. I am under the impression that the use of suggestion is rather in disrepute. What is your idea about that, Mr. Chairman?

Chairman McLeod: I believe that when a thing is accomplished in that way, it is only what we might call a temporary arrangement, because after you have convinced a man against his will—I said a man, not a woman—he is of the same opinion still, and if you have in any way overpersuaded a man to take an article, it does not matter much what it is, if you have overpersuaded him to take it, and it doesn't do and accomplish what he felt it would do, you may have not only lost a customer, but a friend. I believe that that particular phase of the thing should be put before every salesman when he is starting out on a selling campaign, that one big asset which he has and which he must always guard very carefully is his honesty and straightforwardness, his accuracy and truthfulness of statement, so that he will get a reputation that he can be relied upon, and that when he says a thing will do such and such work, that it will do just what he says it will do. That is my own opinion.

MISS MARY A. BLAIR (Westinghouse Products Company): When you speak of suggestion, you are using a very relative term. You cannot eliminate suggestion in selling.

CHAIRMAN McLEOD: I think Mr. Bell particularized on that a bit. I think his proposition was overpersuasion rather than suggestion—that is what I gathered, anyhow. Am I right about that?

MR. BELL: I did not define the suggestion as overpersuasion, but convincing a man that he needs something when he is not conscious of it. I have known of instances where salesmen were taught to go out to a man and take his time and finally get him to believe that he needed something, and under the pressure of the salesman's insistence and whatever mental persuasion he could bring to bear on the man, to get the order. Then, again, sometimes the goods will satisfy the man and sometimes they will not, and the man is left with the feeling that he has been taken advantage of and that the use of suggestion, more or less veiled, is recommended in a number of books on salesmanship.

MR. LADSON BUTLER (Yawman & Erbe Manufacturing Company): I think the highest service that a salesman can render to his customer is to use suggestion, and anything else if the customer has the need and does not know it. In our company, the Yawman & Erbe Manufacturing Company, we train our men to make all possible use of suggestion. I think it is the highest service we can render a customer, if he has the need. It is immoral to sell a man if he has not.

I am more or less familiar with the Knox & Sheldon salesmanship courses, and I think the use of suggestion they recommend is perfectly legitimate and praiseworthy; as a matter of fact, you would be unable to get your customers to realize their own needs without the use of it.

CHAIRMAN McLEOD: I think you misunderstood me. I think that the point brought up by Mr. Bell was a question of overpersuasion rather than suggestion. Suggestion is always right, when you are going to suggest to a man to do something he should do, and you can do it as diplomatically as you want to; but if you do more than suggest, and in your suggestion you represent something that the article will do which it will not do, then the article itself will prove that you are not the proper representative of the article, and that is something, I think, which should be guarded against as much as possible on the part of salesmen who are too eager to add up tons—in my business we figure on tons, and the credit is given for the tonnage sold; and after all, the article itself will talk for itself, and if you have misrepresented the article, that is what I mean, and that is the proposition which I thought was in the mind of Mr. Bell when he raised the question—that it was largely a matter of over-persuasion rather than suggestion.

President Rowe: The point I wish to refer to in connection with this report is one we have never discussed or given consideration to, as far as I know, in this Association. You will notice that in the various topics presented under the heading "Vital Factors in Marketing," we have as the ninth item the Cost System, which means cost accounting. We have sometimes felt that this was a matter of bookkeeping—a matter that did not properly belong to the creative faculties of industry with which we deal, the elements of industry with which we have been accustomed to deal in our discussions, yet this report very properly and pointedly says on page 257, in a further paragraph treating about the cost system, the following: "IX. Cost System—Factory and estimated marketing, administrative and overhead costs. To be worked out with detailed accuracy after the necessary experience." And then it goes on to say: "We might liken the cost system results in an organization to the temperature condition of the human body. If normal, everything is well; if above or below normal, the patient is sick. One of a hundred remedies may be required, depending on the ability of the diagnostician to locate the cause of the trouble. This subject is so important, so broad, and so much good matter is available, that it isn't necessary to do more in this paper than call attention to it."

Now, I have some doubts as to the correctness of that last statement. As to an inaccurate cost system, when we come to diagnose the patient, it is very likely, or at least it is one of the plausibilities, that the one who is doing the diagnosing does not know anything about that diagnosis of the patient who is sick, because he is already dead. Then there is another statement, which I have already read, which is as follows:

"To be worked out with detailed accuracy after the necessary experience." I do not quite think that is the right statement. It should be very accurately worked out, but the necessary experience should be had before it is worked out. There is no use of working out cost methods in accounting after the horse is out of the stable. There is no more use in having a cost system in your business, if you are making a certain product, from certain productive factors in your establishment, to make an estimate on what you think it is going to cost, and then, after it is made, discover that it costs a great deal more than you thought it was going to cost. That has been the weakness of cost systems throughout this country. They have been based too much on estimates.

The first function of a good system of cost accounting is to give you definite, positive, accurate statements of actual costs, and that the actual cost of the product is made up of the charges against manufacturing accounts, the material accounts, labor accounts, overhead, and so forth, that must be entered up in your books as the result of that operation, and you not only have in that case the actual cost of that thing, but you also have the very helpful knowledge that if you have made a mistake in your estimate, you will not do it again.

As I say, I am not going into the question of accounting as to systems of cost accounting, but I have made as close a study of the question as, I presume, anyone in this country, and I have installed cost accounting systems in many large manufacturing plants. While in late years I have not had the time to follow up that work as closely as I should like to have done, I know what cost accounting actually means. The big point, as you know, is the question of overhead, and it is determined in some manner, with relation to the product, during the process of manufacture. There are many methods of doing this, but only one or two that are approximately correct.

Touching the question of marketing—the salesman, certainly, should have access to the cost sheets, representing the various productions of a given factory in which he is employed as a salesman. It is just as necessary for him to know what are the various cost elements, as it is for the man who finances the business and the man who looks out for the payment of the goods when sold, or the man who fixes the terms of credit, or the man who looks after the purchase of supplies at the right price—they are all interlinked, but this one particular thing is the thing that tells the story. In the case of a particular order, if it is received as an order, and not shipped from stock or manufactured in a bulk allotment, it is the cost sheet that carries the vital information for everybody in connection with the management of that business, and the salesman is one of those people.

Now, I should like to suggest, with your permission, Mr. Chairman, that this matter of cost accounting, or cost finding, if you want to use that term—this matter of determining the cost of an article, the actual cost of the labor, the actual cost of the material, the actual cost of the indirect labor, and the actual cost of the overhead, including all the expenses that go into that very complicated item of total cost to manufacturer, should be made a matter of discussion and explanation and familiarity to all of the members of this Association, whether or not they are connected with the Accounting Department. Mr. Chairman, I think it might be very advisable and proper if we were to have a special report upon that topic as well as in the case of some of the general subdivisions of the broad topic of marketing, which have been suggested here. It is the only topic that, as I say, so far as I know, there has never been any attempt to enlarge upon in this Association, and I offer that merely as a suggestion.

CHAIRMAN McLEOD: After having heard what our President has said, I will say that he rather reflects what I feel the Committee had in mind, that this particular subject was so vague and so vast that we could only touch on some features of the cost system. I think our President got the cost and cost system a little bit mixed.

PRESIDENT ROWE: You cannot find one without the other.

CHAIRMAN McLEOD: You can have a cost without very much system—you can have the cost without knowing much of the detail. The cost system will involve detail, and that comes from experience, in the application of a cost system, which is a matter of growth, as we know in our own particular enterprises. I do think that the question of cost system is a big question, and could very properly be taken up, I think, by this Association in order to make it clearer, just the important bearing that a cost system has on the success of any enterprise. If we do not know what it costs to make a thing, it is certainly difficult to do anything intelligent in the way of selling or marketing.

Going back to the first question that was mentioned, I think that the nearest answer to that question that can be found in our particular work is under the heading of "Service."

Under Service—I am talking about the suggested method for a customer—I think any suggested method that has for its object service is, in a large degree, an answer to all complaints. If the method is right, why, the suggestion, whether right or wrong, cannot be criticised from the standpoint of its morality, anyhow. Under the heading of "Service," on page 261, we have this to say: "Back of all economic service is *trained* native ability. Service involves more than courtesy, prompt delivery, and the many little elements of an appreciative regard and obliging spirit. It often means high counsel tactfully presented, intricate analysis of conditions, and technical advice as to promotion, finance, design, application, etc. Thus the service should be competent, responsive, sufficient, tactful."

Then under "Competent" we have this to say: "To be of any use to the customer, service must be competent. Such service promotes marketing, no matter what form the service takes."

Under the heading of "Responsive" we have this to say: "Responsive service is the real kind of service. Not to-morrow or the next day, but now or at the time the customer needs it."

Under the heading of "Sufficient" we have this to say: "Sufficient service can leave no room for complaint, and results in a well-done service as compared with slovenly service."

Then under the heading of "Tactful" we have this to say: "Tactful service does not overserve to the point of embarrassing obligation."

I think that really has a bearing on the question that Mr. Bell asked, and also the matter which was discussed by Mr. Butler.

MR. W. W. KINCAID (The Spirella Company, Inc.): It seems to me that the paper under discussion is very valuable to us in its breadth and comprehensiveness. I do not understand President Rowe to take the ground that we are to criticise this paper, but rather that we are to discuss this subject of cost accounting to-day as a theme for future consideration.

At home, in discussing this subject of accounting with our head accountant, he stated that if he was to get proper cost figures, he must personally come in contact with every part of the business, from the manufacturing to the selling; that he must have free access in order to get full information. He agreed that the real work of an accountant was to look into every nook and corner of the business, and be qualified to deal with the business as an auditor. I believe that is true, and applies to every business, whether a commercial, selling or manufacturing business, and whether manufacturing in large tonnage or small.

I want to commend this paper because of the fact that it takes up the subject of selling in completeness and in breadth. I think in the past, in the study of the subject of salesmanship, the thing that got us on the wrong track too often was the fact that we had studied salesmanship and looked upon it in too narrow a way. We have looked upon salesmanship, as President Rowe has done, in rather a humorous way, a means of dumping the goods, and dumping them in any manner we could.

My memory takes me back to the days of the drummer. I remember in my early boyhood residing in a small village where there was an exceptionally good merchant, but that merchant was ruined and put into bankruptcy by the methods of the drummer—by the drummer who used to drive across country and always had his bottle with him. The drummers who came that way knew the weakness of this man, and this merchant was put out of business by this method. That was not salesmanship—that was brigandage.

When looked upon in its broadest and most fundamental light, I believe that real salesmanship has for its foundation as sound and ethical a basis as any activity in human endeavor. I believe that the real practical basis of salesmanship has just been stated to you in this summary here which is given under "Service." No real salesmanship that is ethically right can get beyond, first, finding out the needs of the man who is to be sold. The salesman, in order to possess that ability, must know the technical side of the line of goods he is selling; he must know the composition of these goods, and the value that is put into them. The real beginning of salesmanship, the real essence of salesmanship, usually commences with the designer or with the man who plans the first chemical or mechanical ingredient of the goods in the factory. From that point it passes on to each person who handles the product. Salesmanship must first be built into the goods, in the form of service, not only in the quality of the product, but in the utility that is put into that product, the service which it is to render, and a salesman who goes out to sell the goods must know the values that are built into the goods and be able to demonstrate them. Furthermore, he must read his customer's general appearance. He must not stop at the analysis of the color of the man's eyes or shape of the man's head; he must look beyond that and know his man. That is the second period of salesmanship.

Then we must go over into the third or modern period, and that is, the salesman must look beyond the man himself, he must look to the man's needs, he must see his plant or his shop, or know something of his ability to dispose of the merchandise, if he is a merchant. A man who is giving real service as a salesman today will not oversell you. In our own institution, we have one man from whom we buy largely, and he has told us a number of times not to buy when, if he had put the emphasis on buying, we perhaps would have bought. He said: "It is my judgment you should not buy now. You had better wait until such and such a time, and if there is an opportunity to make a better deal than I can make today (between this time and then), I will let you know."

That is what I call real service. That man knew his goods; he was brought up in the mill first and learned the goods technically, and from that graduated into the salesmanship side for going out and disposing of the goods. We would all appreciate such help and service, we would appreciate an expert coming into our institution and understanding our needs and suggesting to us the best ways and methods of supplying those needs. That man is a salesman, but he is just as ethical as a man in any other line of business, and that is the kind of salesmanship that I believe we all want. I do not think any of us want that kind of salesmanship that possesses any of the elements of trickery, or salesmanship that is based on taking advantage of the buyer. I think the day of that kind of salesmanship has gone by.

MR. BUTLER: I should like to express my appreciation of what Mr. Kincaid has just said, because it is a matter which falls in my particular bailiwick.

I select and train salesmen but I do not train them solely in the art of persuasion, but rather in the art of service. When I remember the salesmen of twenty-four years ago, whose sole function was to persuade his customer to buy as much and as often and at as high a price as possible, it seems we have made wonderful strides. But we have not gotten entirely away from the old kind of salesmanship. It is immoral to send a man out to sell goods simply because he has the ability to persuade a customer to purchase them, but that is what many of us do. In Rochester we make filing equipment, cabinets, guides, and all that sort of thing, to take care of people's filing needs. It is the easiest possible thing to missell a customer. That is, to give him something that he is satisfied to buy which is not what he really needs. I am not trying to hold my school up as an ideal, but I will say that we train our men first of all in the way of service. We train them to find out what the customer should have; how to get the proper data on which to base their judgment of the customer's needs; to discover his problems. This comes first. Then we teach them our rules for working out the problems. Last of all, we try to train them to make a proper presentation to the customer, and this last we consider the smallest part of our salesmanship.

I think it is a proper function, Mr. Chairman, for this organization to interest itself in the ethics of selling and to advocate selling on ethical bases, and I recommend this for the consideration of the Association during the coming year.

MR. J. H. UNGER (Montgomery Ward and Company): If it would not be out of order, I should like to say something in connection with cost systems for merchandising houses after the merchandise leaves the factory. It is very essential that we have a cost system. We have to anticipate our sales and set up a gross profit on our sales and should our gross profit be 25 per cent, we have to deduct that to get our cost. If our sales sheet is 50 per cent over, we have got to borrow more money and pay what we must for it. We have to have it figured out, and figured out very closely.

Since being here I have just jotted down a few things we have to do, and I should like to know where I can get more information than I have about this matter. I have tried to buy books on the subject, and those that I have read are all on factory costs, and I have not seen anything on merchandise costs in printed form, after the merchandise leaves the mill and goes to the wholesale house or goes to the mail order house.

Among the things we have to contend with is transportation, getting the net cost, and then we have to find out what the transportation charges are per unit, and then there is the operating expense, which includes payroll, supplies, etc., and those are what we call direct expenses in the operating division. Then there are all of the other expenses, overhead expenses, what we call the non-producing division, like the transportation division, correspondence, and dozens of other things, and the direct operating expense which, in my particular division, runs about 3.5 per cent, and our total operating expenses might run up to 17, 18, 19, or 20 per cent, according to wages. Then there is the buying, the advertising expense, and the expense of getting out our catalog. Then there is the problem of shrinkage—shrinkage covers a multitude of sins. If you go into a wholesale or retail house and ask the buyer what the shrinkage is, he will say 4 per cent or 5 per cent. I bet he has been using that same 5 per cent for twenty years, and he does not know what it is.

I am trying to get down to the shrinkage losses a little bit differently, but I do not think I will succeed. Every time I figure it, it comes out differently. There are the returned merchandise accounts to be deducted from the sales accounts.

We do a very large foreign business. If I should get an order in our department for $20,000 worth of stuff going to India, of course, we get a credit for that sale. But I may not get another order like that, and would not put that down as a sale to buy against next fall. We have to take that into consideration. If I ship a lot of stuff to our Kansas City house, I would not call that a Chicago sale and buy against that sale next year.

Then comes the exchanges, which are very heavy sometimes. We have got to know all of these items in order to figure out our gross profits. Before we buy the goods we have to tell them how many we will use in the next six months. If it is 3.5 per cent, we have to distribute that through June, July, August, September, October and November, and if we overrun largely the cost, as I said before, we have got to go downstairs and tell them why. If we are in the right by overbuying, we can get out of that very easily, and they will give us all the money we want, if we know what we are doing.

We have to set up a gross profit. Say we are going to use three million dollars' worth of merchandise in a certain department, we have got to know how much that merchandise is going to cost us. We are going to yield 29 or 30 per cent in order to get the cost. Our inventory is $400,000 in July and we anticipate it will go to $500,000 in December, and there is another $100,000 which goes into our sales.

Now we have got to have the cost figures in order to anticipate these things. I should like to know if there is anybody here that knows where we can get any more information on this subject, in books or in any way. The gentleman who sits alongside of me and I have looked around very thoroughly for this information, and we cannot find anything. We do not know where we can get it.

PRESIDENT ROWE: I shall be glad to talk over that matter with you, after the meeting adjourns, and I believe I can give you some assistance.

CHAIRMAN McLEOD: The remarks of Mr. Unger recall something I want to say to you, and I do not want to take up much time in saying it, and that is that principles of cost accounting now have long since gone beyond manufacturing relations and manufacturing methods. What the gentleman who has just spoken really wants is a method for determining his department costs. Is not that right?

MR. UNGER: Yes.

REPORT OF
COMMITTEE ON TRADE APPRENTICESHIP

REPORT OF THE CHAIRMAN

The subcommittee on Trade Apprenticeship is divided into three sections. The following outline includes the general topics and the members of the sections:

Section 1

Railroads.—To continue the study of the development of desirable apprentices in railroad operation. Mr. Thomas G. Gray, Chairman, was in the military service, and the committeemen of the member companies, due to government control, have been unable to function to any extent this year. The excellent and exhaustive report of the Railroad Section, published in 1918, to a large extent makes the absence of a report in 1919 not a serious matter, as the organization of apprentice training courses in certain great railway systems stands as models for other systems that may desire to establish courses.

Section 2

Manufacturing.—To ascertain under what conditions is apprentice instruction desirable in a manufacturing plant.

Mr. R. F. Carey, Chairman
Mr. J. J. Garvey   Mr. G. H. Pfeif
Mr. K. W. Reed   Mr. J. F. Raymond

The topic was amended to read: To ascertain under what conditions and to what extent is apprentice instruction desirable in manufacturing plants.

Section 3

Steel and Iron.—To ascertain in what divisions of a steel mill it is desirable to develop apprentices and methods to be employed in training apprentices.

Mr. C. E. Strait, Chairman
Mr. P. E. Wakefield   Mr. L. W. George
Mr. E. S. Cobaugh   Mr. C. E. Ralston

The General Chairman also submitted the following topics to all sections for study and discussion:

"In addition to our regular work, I would suggest that the chairmen of the sections, with the general chairman, prepare a report and make recommendations on the following topics:

The topics are:

(a) Further study of the apprenticeship indenture.

(b) Standardization of courses in definite lines of work so that a certificate of graduation will stand for something, just as a degree from a recognized university means completion of certain lines of work.

(c) Regulation among members regarding hiring of apprentices not released from apprenticeship.

(d) Preparation of material on economics and civics that may be taught apprentices in any line of work. The object, being to train our young men to have a better understanding of fundamental principles of economics and government that there may be a closer cooperation of employer and employe.

I am inclined to think that after the war apprentice training will occupy a much larger place in industry and that now is the time to prepare for it."

The excellent work done by the graduates and the apprentices of trade apprentice schools in the military service and the undoubted advantages firms having trade schools have had in manufacturing during the war offer the best arguments, if any are needed, of the desirability of many more such schools being established, until apprenticeship becomes general in the industries.

Special Report No. 1 covers so fully the courses already established by member companies, that any company desiring information on how to establish a school can decide how best to go about the work by a careful study of the special report and obtaining the literature issued by firms represented, with a number of visits by representatives of the firm to established schools.

The problems of organization of apprentice training courses having been pretty thoroughly covered, the need for such courses having been clearly shown, and benefits derived having been carefully explained, the work can now be more completely organized and apprentice training again occupy a prominent place.

The war has taught us many lessons; an important one, the need of preparation, and nowhere more so than in industry, the need of well-trained men. Nowhere can the training be as well done as in thoroughly organized apprentice training courses in the industries. Supported and supervised by the industries, the training becomes a vital part of the organizations and functions in a normal way to train an efficient, loyal organization to secure a high degree of production so necessary to compete in the markets of the world.

A danger we all face is the effect of the short-term intensive training courses, the so-called Vestibule Schools, organized as a war measure. The courses have shown the possibilities of intensive training in industry and the good features we must adopt, but we must use care lest we train so intensively in one line that we lose the thorough training that develops the man so much sought for in industry. There is a vast difference between a lathe-hand and a machinist; between a man who can set a few pieces of type on end and get an impression on a scrap of paper and a printer who is a craftsman. Industry still has need for men with thorough training and our well-organized trade apprentice schools will continue to furnish them.

Can the term of apprenticeship be shortened? Personally, I believe not, and give the thorough all-around training.

The trade apprentice schools must establish definite standards and apply certain tests to determine ability. Entrance requirements must be definite and the credits given for work done in schools organized under The Vocational Education Board must be by means of carefully prepared trade tests, similar, perhaps, to the trade tests as used in the military service.

It will probably be possible soon for the trade apprentice schools to make use of the Trade Specifications and the Trade Tests as developed by the Personnel Division of the Army. If so, a long step toward definition of terms used and an exact meaning of novice, apprentice, journeyman, and expert will be found in the language of industry.

Trade Apprenticeship Schools were put to a severe test during the war, but were not found wanting. Our problems during reconstruction are even more severe. We must meet them and solve each one as it arises, and then our place in industry is assured.

Respectfully submitted,
E. E. SHELDON,
Supervisor of Apprentices,
R. R. Donnelley & Sons Company.

SECTION II.—MANUFACTURING

"To Ascertain Under What Conditions and to What Extent Is Apprentice Instruction Desirable in a Manufacturing Plant."

The assignment made to your sub-committee was a most happy one following logically the report of the previous committee, and here let us refer to that splendid exposition of trade apprenticeship set forth by Mr. J. J. Garvey in the report of last year. It must be considered most unfortunate that this able report could not be openly discussed on the convention floor or at the round table, thus bringing out to the fullest extent the possibilities that were therein contained.

Those who are now contemplating inaugurating a trade apprenticeship system or who already have one in operation can very profitably study this report and gain much thereby, for in this report are set forth, concisely and clearly, the ideals of trade apprenticeship as now conceived by the foremost industrial educators of to-day.

The assignment as made, from indications received during the compiling of this report, covers a field of investigation much needed by those members of our Association interested in this particular activity. It was most surprising to learn how comparatively few of our members are conducting systematic trade apprentice training along the most advanced lines, also it was most encouraging to see how many of our members were anxious to know what was being done along this line, showing that we had a mission to fulfil and which mission we have endeavored to meet to the very best of our ability.

The object of this report is to show just how extensive an organization is desirable and the number of apprentices that experience has shown to be best suited to a manufacturing company employing a given number of producing workmen, be they known as all-around mechanics, machinists, machine operators, bench or floor hands. With this information at hand, those charged with the duty of installing an apprentice system may proceed knowing from the best experiences of others already in the work, that they are sailing pretty close to the mark, and thus avoid the mistakes that others have made.

The data listed below was obtained by the usual questionaire method, which, although not ideal, is the only one available for the accumulation of data of this nature at the disposal of the committee. In so far as was practical, the following has been put on a ratio basis rather than on that of actual figures. These ratios hold for all sizes of plants and types of organizations. Attempts to put this in the form of curves proved too complicated to be of value.

The question of whether apprentice training is advisable is very readily answered. It is our opinion that the nature of the product of a manufacturing establishment should determine the necessity of an apprentice system and the nature of the training necessary. However, it might be stated that where a manufacturing plant employs only one apprentice, he should receive systematic instruction. As to just how extensive an apprentice system should be can be determined from the number of the mechanics employed and is the main object of this report, which is as follows:

Ratio of Apprentices to Mechanics—1 to 5 or More.

By mechanic is meant an all-around man, in some respects the equivalent of the boy who will some time supercede him. It is not intended to include the so-called war mechanics, or simply machine operators who are very limited in their ability. It is the purpose of some of our company members to so train their machinist apprentices as to develop a corps of men from which they can draw on for foremen and other shop executives as occasion may arise.

Ratio of Apprentices in Training Room to Total Number—1 to 8.

By training room is meant a section of the shop set aside from the regular production departments, in which are machine tools of the several varieties commonly used throughout the works. Here the boys are started under the close supervision of competent instructors and brought up to a productive stage before entering the shop proper. The boys work on such regular production work as is suited to the requirements of the training room.

Length of time spent in training room (depending on nature of course) about 6 to 12 months.

Number of apprentices an instructor can handle in training room—5 or 6.

Number of Apprentices an Instructor Can Handle in the Shop Proper, on Specialized Work—about 15 to 20.

In some cases the apprentice instructor in the shop is the foreman or overseer in charge of the section in which the apprentice is placed. In other cases a special instructor is employed, who reports to the head of the apprentice department but works in close cooperation with the foreman.

Number of Apprentices an Instructor can Handle in School—15 to 20.

By school is meant the shop school where apprentices receive systematic instruction in the theory of their shop work and such other subjects as may be deemed advisable.

Number of hours of instruction per week in class room—4 or 5.

Hours at which classes meet—7 to 9; 1 to 2.

It is the general consensus of opinion that the early morning hours are the best suited to class-room instruction, for it is then that the boys' minds are the clearest and their absorbing capacity the highest. It also interferes less with the production departments, for it is the early morning hours in which the foreman is most busy in laying out the work for the day and in getting his men started on it.

The subjects taught include mathematics, mechanical drawing, shop problems, elements of mechanics, and lectures on general subjects, such as banking, personal hygiene, patent law, commercial law, safety-first, the organization of the company, loyalty, etc.

The number of class-rooms should be such that there would be one class-room for each twenty apprentices meeting at any one time. That is, for a group of eighty apprentices divided into four groups meeting two groups at a time, there should be two class-rooms.

Length of Apprenticeship (depending on the requirements)—3 to 4 years.

There is some feeling that due to the showing made in the intensive training of machine operators during the war, that the usual period of four years is longer than necessary, but when the difference in the object is taken into proper consideration, that is, the broad training of apprentices to become mechanics, and the highly specialized war-time machine operator, we feel that the full four years is none too long.

The rates of pay of apprentices show a marked variation, and this is a matter largely influenced by local conditions, nevertheless there has been for some years back a tendency toward an advance in apprentice rates. The two extremes noted in the questionaires handed in were as follows: Starting rate 10c. per hour and an increase of 2c. per year, finishing at 16c. The other extreme started at 35c. and reached 46c., while another started at 25c. and ran to 50c. at the end of the four year course.

In arranging the questionaire an attempt was made to learn just how close the several member companies were sailing to their ideal. It was very interesting to note that most of the member companies answering were closely following their ideals. In other words they were doing the very best that they knew how to do, and were being backed by the management of their respective companies.

SECTION THREE—STEEL AND IRON

Preface

This report is an attempt to outline with as little detail as possible the organization and execution of apprentice training as operated in the steel industry.

The writer has had the privilege of knowing personally Mr. P. E. Wakefield, of the Duquesne Works, Carnegie Steel Company, also Mr. L. W. George, of the Commonwealth Steel Company. He has personally visited the plants which these men represent, and has received their hearty cooperation in outlining to him the actual manipulation of apprentice work in their respective plants.

Mr. E. S. Cobaugh, of the Midvale Steel Company, has furnished some very excellent facts in the questionaire as returned from his company. I wish also to express my appreciation of the efforts of my assistant and co-worker, Mr. J. R. Berry, who has offered many valuable suggestions and criticisms relative to digesting the subject-matter of this report.

C. E. Strait, *Chairman.*

American Rolling Mill Co.,
March 21, 1919.

STEEL AND IRON SECTION

This subdivision of the general apprenticeship committee, designated as the "Steel and Iron Section," was organized in 1917, but no available material for a report was presented to the Association for the year 1917-18.

The subject assigned for the year 1917-18, "To Ascertain What Supervision of Shop Work is Desirable for Apprentices in Steel Mills," and that assigned for 1918-19, "To Ascertain in What Divisions of a Steel Mill it is Desirable to Develop Apprentices and What Methods Should be Employed in the Training of These Apprentices," covers practically the same subject-matter, and will be treated together in this report.

The committee, in dealing with trade apprenticeship as applied in the steel industries, finds that the problems of administration and operation of apprenticeship systems differ considerably. These differences are based mainly on the organization of the industries represented.

The main points of differences in the operation of the apprenticeship systems in the steel industries as compared with the railroads and manufacturing interests, lie in three fairly well-defined directions. These variations consist, firstly, of the hours of labor, based on a twenty-four-hour day; secondly, the wide variety of equipment represented in the various plants; and, lastly, in the personnel of the apprentices employed in these plants.

The steel industries require, for the most part, "all around" skilled workmen in the divisions of the plant representing the various trades. These men must be able to work on miscellaneous equipment and be competent to handle any kind of a job which is given to them.

The steel mill in its general makeup consists of a great deal of massive machinery and machine parts which must be operated continuously, for economy in production. The heavy duty and constant usage imposed upon this machinery results in frequent breakdowns which require immediate repair.

This condition creates the necessity of having men on the job all the time, and therefore necessitates a great many different shifts, length of turns and alternation of turns which would be entirely unnecessary in many industries.

The equipment of steel mills represents practically all kinds of machinery used in the mechanical and electrical fields. The maintenance of such equipment varies anywhere from the repairs on a ¼-inch screw to a 16-inch blooming mill screw; from a ⅛ horse-power dictaphone motor to a 20,000 K.W. generator; from a shovel for trench digging to steam-operated cranes and shovels used in the sand pit.

The great percentage of the repairs done on this equipment is extremely dirty and greasy work, and the boy who would make a successful tradesman must possess a real liking for such work, otherwise his job is more or less of a burden to him, to say nothing of the trouble he causes the company for which he is working.

The items involved in the general personnel, the committee believes, represent by far the most important phase of trade apprenticeship work, as represented in the steel industry.

All the fine details existing in the various divisions of the trades are found in the steel business, but the apprentice usually must dig his way through grease before he can find them, and it thus becomes the prime business of the instructors who are responsible for trade apprentice training to interest the apprentice in what lies underneath the surface as well as in that which he may get by casual observation.

The general administration of apprenticeship work is governed very largely by the schedule of operations, as has been noted previously. The work best suited for the progressive development of the apprentice is not always available at the psychological moment. The standard required in the execution of a job may be too high for the apprentice who receives the job.

This condition in most cases cannot be changed, as most machines or equipment used in repair work are for general utility purposes and not for specialized operation work. This requires very close supervision of the future mechanic until such time as he has received operations and combined details sufficient that he can carry on the job himself. If such supervision is not given and the apprentice is allowed to shift for himself and is given assistance by the foreman and his fellow workmen the result is usually unsatisfactory. The foreman rarely possesses the ability to teach what he knows, and the average workman is not particular about passing out any information about his job, and if he does, there is a question as to whether it is given in the best way. The average journeyman, in the first place, does not possess sufficient knowledge of the subject, which he attempts to pass on to the apprentice.

When the future mechanic is offered the opportunity of becoming a master in his trade by means of the apprenticeship course, it becomes the duty of the company or organization represented to fulfil its part of the obligation.

The company must have men best adapted for its work or divisions of its work and at the same time it cannot develop a man as a lathe operator or planer operator or armature winder, and neglect the other details of the trade. It doesn't matter if the apprentice, after graduation, does assume the duties as involved on a particular machine or operation. He is a better man, a more intelligent workman and a better mechanic for having worked through the various details of the trade represented. The steel industry, in common with other industries, specializes whenever possible, but no high degree of specialization in trade work has been accomplished to date.

The all around experience for the apprentice and the administration of that experience, in the most logical and profitable way, is one of the most pressing problems presented in apprenticeship work.

There is an increasing tendency on the part of the steel industries to establish separate training shops or to set aside a certain division of the regular shop for the training of apprentices. These training shops select the work best suited for the individual in the process of development and pass on the more complicated work to the more skilled apprentices, until the new man has been developed sufficiently to fit him for the more difficult work. Careful judgment, however, must be used in all cases, as very little exercise work is available at any time.

The presentation of laboratory work in the class-room to practically all trade apprentices is also entirely feasible. This kind of supplementary instruction work is done to some extent. The value of such instruction work the committee believes has definitely been proven.

The discussion which follows will serve as a guide to what has been accomplished and what remains to be done. It may also furnish some additional information on subjects which have been covered in the reports of the committee representing the railroads and manufacturing interests in previous years.

Considerable differences in opinion are found on some points and expression is given as a matter of fact, when the majority of the committee are agreed on the points, otherwise such differences are noted in detail.

CONTENTS

I. Trades Represented.
  1. Class work given in trades.
II. Selection of Applicants.
  1. Entrance requirements.
  2. Age limits.
  3. Employment of married men.
  4. Scientific selection.
  5. Mental tests.
  6. Preferences.
III. Trial Period.
  1. Elimination.
  2. Time on trial.
  3. Indenture of agreement.
IV. Working Hours.
  1. All day turn.
  2. All night turn.
  3. Alternate equal day and night turns.
  4. Alternate unequal day and night turns.
  5. Alternate three shift turns.
  6. Alternate intermediate three shift turns.
V. Methods of Giving Shop Instruction.
  1. Regular foremen.
  2. Special shop instructions.
  3. Special training shop.
  4. Method best adapted for results.
  5. Sequence of shop work.
VI. Class Room Instruction.
  1. Type of instructors employed.

2. Necessary qualifications of such instructors.
3. Development of men suitable for instructors.
4. Utilization of shop instructors in class room work.
5. Sources of matter used in class room instruction.
6. Use of prepared lesson sheets.
7. Hours devoted per week to class room work.
8. Payment for class room time.
9. Class rates as compared with shop rates.
10. Comparison of class work with shop work.
11. Elimination from trade on account of slow progress in class room work.
12. Night school work—day time classes.
13. Use of "laboratory" work in class room instruction.
14. Trades most readily utilizing "laboratory" work.
15. Class room progress.

VII. Foreman's Cooperation.
  1. Necessity of progressing the apprentice.
  2. Other means of cooperation.
  3. Educating foremen to the idea of apprentice training.
  4. Rate approval.

VIII. Type of Help Developed.
  1. All around mechanics versus skilled machine operators.
  2. Status of men trained compared with men from the outside.

IX. Checking Shop Attendance and Progress.
  1. Methods on attendance.
  2. Methods on progress.
  3. Interest in work.
  4. Effect of home—influence on apprenticeship development.

X. Bonus and Piece Work.
  1. Payment of bonus rates for work done.

XI. Time Required for Graduation.
  1. Specific time required.
  2. Time for each trade represented.
  3. Payment of rates on graduation.

XII. Diploma or Certificate of Graduation.
  1. Kind issued.
  2. Statement as to class work completed.

XIII. Plans for Further Progress of Graduated Apprentices.
  1. Regular instruction work.
  2. Further plans.

XIV. Support from High Officials.
  1. Importance of Issue.
  2. Methods of reaching the man higher up.

Trades Represented

In the steel mills the following trades are represented with regularly organized apprentice work in shop and in class room; the machinist, patternmaker, electrical worker, mason, draftsman, tinner, pipe fitter, molder, carpenter, and locomotive and stationary engineer.

The larger percentage of apprentices are found in the machinist, molder, patternmaker and electrical worker trades. These trades represent those demanding the larger supply of new mechanics from year to year.

This being the case, the work outlined in both shop and class room is more clearly defined than that for the other trades. The degree of skill required for all around mechanics in these trades is generally recognized as being greater than that required in some of the other trades. The thoroughness of well outlined apprenticeship work, in any trade worthy of the name, is, however, the best assurance of the development of the mechanic in that trade.

Accordingly class-room work, which supplements shop work, is given in all of the above mentioned trades, and includes in all cases applied mathematics, mechanical drawing and shop sketching.. The advanced mechanical drawing offered to advanced apprentices includes the reading of complicated blue-prints, involving principles of machine design, electrical circuits, pattern and core-box design, core setting, furnace work, structural steel layout, and many other features dealing with the technical side of the trade. The apprentice in this manner acquires such information as will fit him to assume the responsibilities of assistant foreman, foreman, or similar positions. Most of the companies in addition to offering the class work dealing with specific problems in the trades also give class instruction in subjects which tend to make the young man in their employ a better citizen, interested in civic improvements, and somewhat broad-minded in matters of industrial progress and at least open-minded in helping to put across some ideas in modern production methods, classroom instruction, covered by lectures. Included in this classification are instructions on Safety-First, Sex Hygiene, Thrift, Insurance, Real Estate, Quantity Production, and other general educational work.

Selection of Applicants

In the selection of applicants for the trades, all apprentice instructors prefer eighth-grade schooling or its equivalent, but the real desire to learn on the part of the prospective apprentice will offset a considerable lack of general education, and the applicant is accepted if he exhibits this characteristic. The minimum age for entrance into the trades is usually defined by State laws, and varies from 16 to 18. The maximum age of admittance is as high as 35. One company reports that married men are admitted into its apprenticeship courses with a slight preferential rate and are given equal chances with the younger or unmarried man. The advantages claimed, in employing married men, lies in the fact that as a rule they are more steady on the job, more fully developed physically, and consequently more able-bodied, and also in the fact that they possess less of the roaming spirit, which so frequently works to the detriment of the younger man. The married man without a trade has also seen some hard knocks and more fully appreciates the necessity of acquiring a trade, the knowledge of which will fit him for a better earning capacity and a higher standing in the community.

Scientific methods of selection, including those involving facial or other physical characteristics, are not followed. Neither are mental tests given to determine the general education which the applicant possesses. As noted above the chief characteristic required of the apprentice is his desire to learn.

Whenever it is at all feasible to employ sons of old employes of the company, these boys are given preference in order of employment, and as a rule make good craftsmen. An occasional tendency exists on the part of the employes to take advantage of this and send in applicants who are entirely unsuited for apprenticeship work, but this factor is not of sufficient moment to change the general order of procedure in this matter.

Trial Period

Candidates for apprenticeship courses are given trial periods averaging about three months in length. If the prospective apprentice during this period of time is found to be unsuited, beyond question, for trade work, he is eliminated from the course and transferred to general labor work or to some other division of the plant. No hasty action is taken in this procedure, however. If the apprentice shows a possibility of improvement and his attitude toward the work is right, in many cases he is given further trial beyond the three-months period and eventually finds himself in his chosen work. The trouble in eliminating the man on too short a trial period lies in the fact that possibly he has not been given sufficient time to confirm his likings or dislikings for the work. He must find his calling and much help can be given him by the instructor who takes his case into consideration and tries to help the man find himself.

Divided opinion exists in regard to the apprentice being required to sign an indenture or contract at the end of the trial period. The contract is not especially valuable in holding the boy on the job and as he is removed from the job any time during the course of training, when unsatisfactory, it is a better method of procedure to give him a statement signed by a company official, as to what is expected of him, and not require him to sign this statement. If for any reason he sees fit to leave before his time is completed, he is bound by no contract and the company is put to no trouble trying to hold him.

Working Hours

The working hours of apprentices in steel plants differ somewhat from those usually followed by manufacturing concerns. The great diversity of operations in the mill necessitate likewise a great variation of working hours. These working shifts are usually designated as turns and we find all-day turns, all-night turns, alternate equal day and night turns, alternate unequal day and night turns, alternate, three eight-hour turns, and intermediate, alternate, three-turn shifts.

Methods of Giving Shop Instructions

The reports issued by the members of this committee indicate that the regular instruction given in shop work is not given by the regular shop foreman. In most cases the shop instruction is put up to a special shop instructor whose entire time is taken up with such work. This man works in cooperation with the regular shop foreman. When a sufficient number of apprentices is not employed, in a given trade, to justify the employment of such an instructor, the purpose may be served by the employment of one instructor to look after the apprentices in all the trades represented. The objection to this method usually lies in difficulty of securing an all around instructor. The argument in favor of this plan lies in the fact that the apprentice has some one at his call who is ready to serve him and help him in his general trade development.

A more extended plan of instruction, and one which is meeting more favor in the steel plants, is that involving the establishment of a distinct or separate training shop for the preliminary and progressive training of the apprentice. At the present time such special training shops are operated in the training of machinists, molders and pattern-makers. The highest development of this idea is being carried out in the training of machinists' apprentices. The most logical way to get good results in the training of molders and pattern-makers is to set apart some section of the regular shop and operate apprentices in this section. The special training shop or sectional training shop offers the advantage of the giving out of work in a more logical sequence, and more careful and specific supervision may be given than is possible in the regular production shop. The variety of maintenance or production work which falls to a shop of this description is usually sufficient to eliminate any necessity of type or exercise work for teaching purposes alone. The special shop should bear its own burden of expense and receive the same attention from the management as the regular shops.

Class Room Instruction

Both practical and technical men are employed as class-room instructors, the preference being given to the technical man who is "long" in shop practice, one who has served an apprenticeship or its equivalent.

The development of men suitable for class-room instructors from the material available in the plant is a matter which occupies considerable attention. The practical shop man without a certain amount of general education is rarely capable of such work and the technical man with the lack of shop practice is not competent of properly tying up the class-room instruction to shop calculations and shop processes. The very existence of the class-room depends upon its success in helping the man in the shop. If it fails in this, it is nothing more or less than a burden to the establishment which organizes and maintains it. This problem of training instructors should receive careful attention on the part of the management and means should be available for the advancement of such training. Furthermore it may be justly stated that however competent the instructor may be either in the shop or class-room or both, if he does not possess the ability to handle men tactfully the above mentioned qualifications are far from being sufficient to hold him on the job. The successful handling of men depends upon studying their characteristics and working with them so as to develop the desirable traits and to suppress or eliminate those that are undesirable.

The subject matter for class-room instruction purposes varies from that as contained in regular standard text-books, handbooks and trade catalogues to that which is prepared in sheet form to meet special conditions. At least seventy-five per cent of the class-room instruction matter is of the special sheet form. The time spent on class-room work averages three hours per week for all subjects combined.

Payment is made for class-room instruction. In some plants the apprentice is taken away from his regular work long enough to do his allotted share of class work, while in other plants he receives the class-room instruction on his own time, but is paid regular shop rates for the same. One company reports a bonus paid on hours spent in the shop for class-room instruction. Another reports a graded scale of payment which varies considerably from the shop rates. The latter system places a premium on the grade of work done in the class-room as compared to that done in the shop. This system is passing through the experimental stage.

Some attempt is made to compare the work done in the class-room with that done in the shop. Some apprentice supervisors place the class work at one-third and shop work two-thirds, others on a fifty-fifty basis, and still others attempt no comparison at all.

All companies, however, do not eliminate apprentices who do not make a reasonable rate of progress in class-room work. If the grade of work done in the shop is satisfactory, continued effort is made to bring the apprentice along in his class work, until he does what is considered satisfactory work for that individual. No attempt is made to organize and operate class-room work in the strictest sense of the term. Several apprentices may constitute a class, but rarely, if ever, are their mentalities standard enough to attempt to follow the same line of approach or method of instruction to all the individuals represented. All instruction is individual and the instructor must find means of presenting the principles to each student in place of trying to pass out his instructions to be swallowed and digested whole.

The great diversity of working schedules necessitates a like variation of class-room hours. The hours of classes vary from 7 o'clock in the morning to 9 o'clock at night, depending very largely upon the organization of the plant.

The use of specially fitted class-rooms, containing laboratory or shop equipment, to be used for the demonstration of principles, is gaining ground in the industries. One concern reports the successful operation of an electrical laboratory in the training of its electrical apprentices. All trades can profit by this laboratory work and it is only a matter of time until there will be a more universal application of these methods.

The progress of the apprentice in class-room work is not so much a matter of percentages as it is advancement made in his application to the work, as an individual. Stimulation of interest in class-room progress can be furthered by the use of charts posted in the room, which show the relative standing of each individual.

Foreman's Cooperation

The money spent in the operation of apprentice courses is justified only by the results which these courses produce. Shop or class-room instruction amounts to little unless the regular shop foreman is thoroughly in accord with the idea of developing the apprentice and progressing him in his work as fast as he becomes capable. For this reason the cooperation of all shop foremen is one of the most vital factors in the final success of apprentice training. The foreman should be consulted and advised of any plan affecting, in any way, the operation of the apprentice system. Radical changes should not be instituted without his consent to give the new proposition a fair trial. In so far as possible the foreman should be made a party in the choice of the new apprentice. If he has a hand in the game, to this extent, he will help make the new man a success because he has been partially instrumental in bringing him into the work. Another very positive means of getting the cooperation of the foreman lies in utilizing his ability by having him come into the class-room occasionally and deliver a short talk or lecture to the boys. While he is there the apprentice instructor has an opportunity to show him what is being done, and in many cases, the foreman finds himself rusty on modern methods, as taught in the class-room and as a consequence takes a keener interest in what is being done and how it is done. The chairman of this committee is frequently called upon to explain some item in mathematics to a foreman who seeks information of this kind. The apprentice supervisor, in turn, must keep his feet on the ground and consult the foreman regarding methods or processes which are being used, with which he is not familiar. The two should work together. Some foremen must be educated to the idea of apprentice training and when this becomes necessary the process is somewhat longer, but invariably all that is necessary is to bring an apprentice along who keeps the foreman guessing and the foreman will soon lose his antagonism and begin to improve himself to keep pace with the times.

The increases in apprentice rates are usually given according to a fixed schedule. There is a general tendency to raise the standard of apprentice rates in order to attract a desirable class of men into the work. One scheme which has worked successfully, especially during the war period, consisted of small increases distributed over comparatively short periods up to the end of the first year. After the first year, increases were maintained, but were distributed over longer periods of time. In this way the new man soon found himself in a satisfactory earning capacity, and could afford to spend his time in learning a trade. This scheme has been particularly valuable in the case of the employment of married men. Married men employed under this plan also were given a slight advance in starting rate over the single man.

Type of Mechanics Developed

All around skilled tradesmen are developed. Those who do not possess ability to develop as all round craftsmen are trained for skilled operators, in so far as a limited field, in this direction, allows. The all round tradesman graduated from the apprentice course is credited by the foreman as being a much higher class mechanic than the man taken from the outside and proves to be far more valuable and loyal to his company.

Checking of Shop Attendance and Shop Progress

Various schemes of checking shop attendance are reported. Some plants report that the shop instructor keeps a record of attendance independent of the regular time clerk. But the majority receive their absence reports from the timekeeper. All reasons for absence from the shop are reported by the time clerk to the apprentice instructor on a special form. This excuse is checked against his monthly attendance card, and both are filed. It is thus possible, for any future reference, to find the reason for the absence as well as the date on which it occurred.

The progress of the apprentice in his shop work is checked by records kept by the apprentice supervisor. These records consist of reports from the foreman, as to the apprentice's progress and also of reports from the shop instructor. The two records are checked for comparison. If any differences of opinion arise between the foreman and shop instructor it is very easy in this matter to review the case and adjust the difficulty to the satisfaction of both concerned and also in justice to the apprentice.

The interest of the apprentice in his work is usually checked by the increased ability he shows on the job, and in his skill in taking hold of a new job.

The records kept by apprentice supervisors indicate quite clearly that the home influences of the boy are directly or indirectly shown by his absence reports, reports of spoiled work, and the like. This phase of the apprentice's work and his life is hardly within the jurisdiction of the plant, but much can be done, however, in such cases by talking to the individual in a business manner.

Bonus and Piece Work

Bonus and piece work prices are paid apprentices in some of the steel plants. Divided opinion exists as to the practicability of paying the apprentices bonus rates while they are still in the course.

Time Required for Graduation

The time required for graduation is three years for masons, carpenters, pipe fitters, locomotive and stationary engineers, and four years for electricians, molders, machinists and patternmakers.

Reports from the different members of the committee show that the graduated apprentices receive journeyman's rates in as far as they are capable of doing a journeyman's work. But the wide variation in the scale of wages during the past four years has made the journeyman's rate somewhat a matter of guess work.

Diploma or Certificate of Graduation

A diploma or other proper credential, signed by a high company official, is given the apprentice upon graduation. This diploma indicates the kind of class work covered during the course and serves as a very valuable evidence of experience and training, to the apprentice as well as to his future employers, in case he goes elsewhere for employment.

Plans for Progressing the Graduated Apprentice

The progress of the graduated apprentice depends very largely upon himself. He has had the assistance and guidance of men interested in his progress, during his term of apprenticeship, and if this has not inspired him to work for something higher up the line, he had better remain as a mechanic, where his service is always valued to the extent of his ability.

High Official Support

The support of the highest officials of the company is necessary for any apprentice course to be successful to the highest degree. Such achievements as the apprentice work is justly entitled to should be brought to the attention of these higher officials, who are only too glad to commend what has proven to be a valuable asset to their organization.

APPENDIX I

Industrial Commission of Wisconsin

STATE CAPITOL, MADISON, March 21, 1919.

DEAR MR. SHELDON:

In response to your letter of March 15th will say that the apprenticeship outlook in Wisconsin at the present time is good. Since the change brought about by the termination of the war we find plenty of boys willing to take up apprenticeship.

It is a fact that the employers in the State do recognize the necessity for thorough training, and most of our employers look with suspicion on the vestibule school idea anyway, because it does not get them away from the problems which they have been subject to in the past, but only intensifies those problems. The secretary of the Milwaukee Metal Trades and Founders Association, representing perhaps the largest manufacturers in our State, has again and again expressed what the sentiments of his association are in proclaiming that what the employers needed most was good all-round training, and in order to get them to accept it in a practical way it resolves itself into a matter of education.

More employers are beginning to see the light as time goes on and to recognize at the same time that intensive vocational courses are only temporary palliatives which cannot in the long run affect for the better the peculiar conditions of training in industry.

Very truly yours,
STEWART SCRIMSHAW,
Supervisor of Apprenticeship.

APPENDIX II

APPRENTICE PAPERS

THE BILTON MACHINE TOOL CO., BRIDGEPORT, CONN.
Clarence E. Bilton, President

CONDITIONS OF APPRENTICESHIP

Requirements.—The applicant for admission to Apprenticeship must not be less than sixteen years of age, nor over twenty years of age. He must be physically sound, of good moral habits, and must have received a good grammar school education.

Application and Agreement.—The applicant must apply in person, and, if this application is considered favorably, he will later be notified when to begin work, subject to the rules and regulations governing employes of this factory. In order that his special fitness for the Machinist's and Toolmaker's trade may be judged correctly, the first 1160 hours (about six months) will be considered a trial period. During this trial period, he shall be paid at the same rate of wages allowed for the first period of apprenticeship. If, at the expiration of the trial period, his conduct and workmanship shall have been found satisfactory, he shall be engaged as a regular apprentice and he shall be requested together with his guardian to sign in duplicate the within form of agreement, which shall be dated from the beginning of the trial period.

The time of apprenticeship shall cover eight terms or periods of 1160 hours, making in all about four years time. The rate of wages for the respective periods shall be as follows: cents for the first, cents for the second; cents for the third; cents for the fourth; cents for the fifth; cents for the sixth; cents for the seventh; cents for the eighth. Less, however, the sum of 25 cents per week to be deducted by the Company and paid to the Apprentice, if he satisfactorily completes the full term of his apprenticeship, as provided elsewhere in these Conditions and Agreement.

Careful records shall be kept of each apprentice, including his efficiency, initiative, progress, obedience, attendance, etc.; and, at the expiration of the third year, if in the opinion of the executive committee the record of the apprentice warrants it, this Company will permit said apprentice to graduate three months from that date, and present him with his diploma; that is, the Company will deduct nine months from his term of service because of his good record, making his full term three years and three months.

During the term of his apprenticeship, the Company shall furnish the apprentice with certain tools needed in his trade. These tools will be as follows: One 1" Micrometer, one 12" Combination Square Set, one one-pound Hammer, one 6" Scale, one 4" Scale, one 8" Monkey Wrench, one 8" outside and one 6" inside Calipers, one 6" Divider, one 6" Hermaphrodite, two Center Punches and one copy of American Machinists' Handbook, the value of which amounts to about $20.00. These tools will be loaned only to the apprentice during his apprenticeship, and he will be responsible for their good condition. They will be the property of the Company during this time, but on the satisfactory completion of his full term, they will be voluntarily given to him, in addition to his bonus.

When the apprentice shall have completed his eight terms in a satisfactory manner, he will be given a bonus of $100.00. The Company will also present to the graduate apprentice an Engraved Diploma of the National Machine Tool Builders' Association, of which this Company is a member. This diploma will be signed by the officers of that association and the president of this Company.

General Conditions.—It will be the endeavor of The Bilton Machine Tool Company to give to the apprentice, as far as possible, an opportunity to acquire a practical knowledge of the Machinist's and Toolmaker's trade, and it is expected the apprentice will manifest an interest in this by being punctual in attendance, by good conduct and faithful work in the shop, and by improving himself in his leisure time by reading and studying literature relative to his work. As far as is practicable, the Company will give to the apprentice his shop training on the following machines during his apprenticeship: One month, Tool Crib; two months, Pattern making and Foundry; eight months, Lathes; eight months, Plain and Universal Milling Machines; four months, Grinders; six months, Planers and Shapers; six months, Bench Work and Assembling; three months, Radial Drills and Boring Mills; ten months, Tool Work; making a total of forty-eight months.

The time to be spent on the various machines above enumerated may be varied, however, in the discretion of the management, according to the record of the apprentice.

This Company will also help the apprentice by educating him in the theoretical problems of mechanics and mechanical draughting, by such methods as it might establish for the benefit of its apprentices. Graduates of the State Trade Education Shop of Bridgeport, or any other equally good training school, shall be allowed the same number of satisfactory hours which they spent in that school to be applied on this apprenticeship. They will also receive the regular bonus given on the satisfactory completion of this apprenticeship.

Finally, The Bilton Machine Tool Company reserves the right in its sole discretion, to terminate this agreement and discharge the apprentice for any of the following reasons: Nonconformity to the shop rules and regulations, want of industry or capacity, indifference to duties, or improper conduct within or without the shop.

However, no apprentice will be discharged until after investigation and approval by the general foreman and superintendent of his department; and, after notice of such discharge, said apprentice shall be entitled to a full hearing before the executive committee of this Company. Said committee may, if warranted by the facts, reverse the decision appealed from.

THE BILTON MACHINE TOOL COMPANY.

AGREEMENT

THIS AGREEMENT, entered into this............day of ....
19.... by and between ....of
.... and THE BILTON MACHINE TOOL COMPANY, a Connecticut Corporation, of Bridgeport, Connecticut.

Whereas: .... of ....
who is the son (or ward) of the above ....wishes to become an apprentice to *The Bilton Machine Tool Company* for the purpose of acquiring the art or trade of a machinist and toolmaker.

Therefore, ...hereby apprentices to *The Bilton Machine Tool Company* his son (or ward) .... for a term or period of 9280 working hours, or about four years time, unless varied under Paragraph 3 of "Conditions of Apprenticeship" commencing ....19.... and agrees that his said son (or ward) shall become an apprentice in the art or trade of a machinist and toolmaker, subject to, and in accordance with the conditions of the apprenticeship, which are given on the reverse of this agreement and made a part hereof. He also agrees that his said son (or ward) will abide by its rules and regulations for such period, and *The Bilton Machine Tool Company* agrees that said apprentice shall receive instructions in the art or trade of machinist and toolmaker during said period.

The said, *The Bilton Machine Tool Company* agrees that during the said period, it will pay to said Apprentice, wages in accordance with the "Conditions of Apprenticeship" given on the reverse of this Agreement; that it will deposit in its name as Trustee all sums of 25 cents per week retained by the Company as agreed; that if the Apprentice shall complete the full term of his apprenticeship and if this Agreement shall not be terminated and the Apprentice discharged by the Company as provided in the last paragraph of the Conditions, then the Company will, upon the completion of his term of apprenticeship, pay him as additional wages, all the sums of 25 cents per week so retained.

The parent or guardian agrees that any sums due or payable hereunder may be paid to and received by the said Apprentice.

In witness whereof, duplicate copies of these presents have been signed by the said parties on the date above mentioned.

....
Parent or Guardian

THE BILTON MACHINE TOOL COMPANY

....
(President)

Having read the within and foregoing Conditions and Agreement binding me as an Apprentice to *The Bilton Machine Tool Company,* I hereby consent to the provisions of same and agree to carry out the requirements mentioned therein.

....
(Apprentice)

APPLICATION FOR APPRENTICESHIP

On this ....day of ...., 19....
I hereby make application for admission to apprenticeship of the Machinist's and Toolmaker's Trade in the factory of *The Bilton Machine Tool Company,* and I agree to conform to the "Conditions of Apprenticeship" and "Agreement" mentioned in these Apprentice Papers, and to the rules governing workmen in the employ of their factory.

Name in full ....
Residence and address ....
Place and date of birth ....
Father's or Guardian's name ....
Father's birthplace ....
Father's occupation or profession ....
From what physical ailments, if any, are you suffering? ....
Do you use tobacco in any form? ....
Do you use intoxicating drinks? ....
Do you use profane language? ....
Is it your custom to attend church services? ....
In what city were you educated? ....
Did you graduate from a Grammar School? ....
Name of Grammar School; age when graduated ....
Did you graduate from a High School? ....
Name of High School; age when graduated ....
Technical education, if any ....
Give name of any employe of this factory whom you know ....
How have you been employed since leaving school?.................
Why do you wish to learn the Machinist's and Toolmaker's trade?........
....
....
....

The Bilton Machine Tool Company hereby accepts .... as an apprentice in accordance with all of the conditions mentioned in these apprentice papers, and this apprenticeship begins on ...., 19....

THE BILTON MACHINE TOOL COMPANY.

CERTIFICATE OF APPRENTICESHIP

This is to Certify that ....has fully and satisfactorily completed his term of apprenticeship in the Machinist's and Toolmaker's trade, and has fully complied with all the conditions in the Apprenticeship Agreement.

Dated at ...., this.........day of ....
A. D. 19....

THE BILTON MACHINE TOOL COMPANY

....
(President)

WITNESSES:

....

....

APPRENTICE PAPERS

OF

THE BILTON MACHINE TOOL COMPANY

WITH

....

Commencing ....

Ending ....

These papers were prepared by a special Apprenticeship Committee appointed by Mr. Bilton June 11, 1918. Adopted by The Bilton Machine Tool Company to take effect July 25, 1918.

Special Apprenticeship Committee

JOHN TOTH,
CARLETON CLARKE,
EDWARD SHAW,
RALPH ROBINSON,
FRANK WATKINS,
VAUGHN WHEELER,
OSWALD OLSON,
HAROLD CARLSON,
A. J. CUMMINGS.

TRADE APPRENTICESHIP

TUESDAY EVENING, JUNE 3, 1919

PRESIDENT ROWE, *Presiding*

PRESIDENT ROWE: The next business will be the report of the Committee on Trade Apprenticeship, which will be presented by the general chairman of the committee, Mr. Sheldon. The first section of this report is "Railroads." We have no report on this particular branch of the subject. The second section is "Manufacturing" and the third section is "Steel and Iron." I take pleasure in introducing Mr. Sheldon.

MR. E. E. SHELDON (R. R. Donnelley & Sons Company): I will not take much time in reading the preliminary report, but will allow the time to be taken in a general discussion. With reference to Section I, "Railroads," as our President has said, there is no report, due to the fact that the Government took over the railroads. Very excellent reports have been made in previous years on the subject of trade apprenticeship systems on the railroads and some of them are available. Section II on "Manufacturing" will be presented by Mr. Carey, and Section III on "Steel and Iron" will be presented by Mr. Strait.

There were a few recommendations made, to which I desire to call your attention: Page 280 (a) "Further study of the apprenticeship indenture."

The states have formal apprenticeship laws, but there seems to be no general law, and it is doubtful if we will have a general apprenticeship law that will make it possible to have anything more than an apprentice agreement, in other words, having in writing a statement of all the conditions. I personally do not believe it is a good thing to have too formal an agreement, but it is well to have a statement and to have the signature of the parents, and the apprentice as well.

(b) "Standardization of courses in definite lines of work so that a certificate of graduation will stand for something, just as a degree from a recognized university means completion of certain lines of work."

I might say that in the printing industry the apprentice training is pretty well organized. There is an apprenticeship director for the United States, under the general direction of The National Typothetae, who has charge of the training courses. Training courses have been carried on in various cities. There is a school at Indianapolis, a course is carried on at Carnegie Institute, and also a graduate course at Harvard College. The work at the present time that the National Committee is attempting to carry out is to guide the work that is going on in the schools. Printing has come into the schools as a vocational subject, and the National Committee has felt that it is wise to guide that work. We do not expect that the students who take the work in the schools will enter the industry, certainly not all of them, but we do feel that in order to have printing made what it should be, and what it has been and is, that we must guide that work and have properly qualified teachers in the schools to teach the subject, or not have it in the schools at all.

The National Committee has also planned and is now bringing out, a series of books—I think there will be 62 volumes—that are all prepared by men in the trade, competent to prepare material on the different phases of printing, which will constitute a library for apprentices. This library will teach the arts allied to the printing art, including paper-making, etc. Each volume treats of a separate subject, and is prepared as a text book, and will contain the standards of work. I am in hopes that the time will come when if a man in New York answers an advertisement of ours that we want a printer, we will know that he is a printer, and if we telegraph him to come to Chicago, we will know he is a qualified printer, and the term printer will stand for something.

(c) "Regulation among members regarding hiring of apprentices not released from apprenticeship."

Here in Chicago, the firm I represent has its own printing school. A number of firms, something like twenty, felt that it would be desirable to establish a training school under a single foreman, and the firms combined and formed a school, and we are training printers in that school. We have no trouble, on account of that school, in hiring printers from one firm to another."

(d) "Preparation of material on economics and civics that may be taught apprentices in any line of work. The object being to train our young men to have a better understanding of fundamental principles of economics and government that there may be a closer cooperation of employer and employe."

In connection with this, I think a good deal of work along economic lines would be very desirable and valuable. I have not been able to find any material along the lines of elementary economics written from the factory viewpoint, that we can put into the hands of our students, and get them to have the right viewpoint in regard to many of the fundamentals of economics.

We very often hear the statement that the apprenticeship system is dead. I do not believe it. I believe that it is increasing and will continue to increase. Wisconsin has a very broad apprenticeship system, and I believe that in the last few years the number of apprentices has increased to such an extent that it shows that there is a demand for apprenticeship training, and I think as other states develop industrial courses that we shall find that the new apprenticeship system of earning and learning fill the needs of modern industry.

As to whether the term of apprenticeship can be shortened. I will say that in the printing industry we are able to take boys at fourteen, under the laws of Illinois, and in our training courses we have taken large groups of boys who leave the grammar school at fourteen. We attempt to get the boys as soon after fourteen as possible. They must be grammar school graduates, and some have had high school work. These boys are in our short pre-apprenticeship course during the ages of fourteen to sixteen, and then we have in the printing trade a five-years' apprentice course. That seems to be a long time. I do not think we should shorten the course. During the war we found it necessary to advance the boys very rapidly. I talked to a boy the other day in our apprenticeship course, whose brother has just graduated as a journeyman workman; this boy is a year and a half younger than his brother and an excellent workman. I made the remark, "Do you feel you should finish your apprenticeship course now?" He said, "I do not want to; I want to stay until I am twenty-one. That further time will give me a greater advantage." I believe we shou'd not shorten the apprenticeship course, but continue to give the boys a thorough all-around training.

Mr. Carey, Chairman of the Manufacturing Section, will now present his report.

Mr. R. F. Carey (Westinghouse Electric and Manufacturing Company): Mr. Chairman and Fellow Members of the Association—I am not going to take the time to read the report which we have prepared.

I feel that those of you who are interested sufficiently in the work of this Association to attend this convention are also sufficiently interested in the report of this committee, if the subject appeals to you, to have read it, before the matter is brought up for discussion. Since writing the report it seems to have become necessary to amplify at least one portion of it. I refer to that portion dealing with the results achieved by vestibule schools. I have heard from many sources that the results thus achieved would indicate, as Mr. Sheldon has intimated, that a shortening of the regular trade apprenticeship course is inadvisable.

In my own mind I classify producing artisans, if you please, into four groups—mechanics, machinists, machine operators and machine tenders. Webster may not agree with me in my definitions, but I wish to make my idea plain. By mechanic I mean one who can do a creditable job at more than one trade. By machinist I mean one who can do a creditable job on any of the usual machines. By machine operator I mean one who can do any job on one machine, and by machine tender, one who can do one operation on one machine. I very much fear that our vestibule schools have produced a grade of man in between the last two classifications. This, of course, time will tell.

Now, I do not want to be misunderstood, in any sense whatever, as detracting one iota from the wonderful results achieved by those in charge of our vestibule school work. They did a wonderful work at a time when that work was absolutely essential. But do not let us make the mistake of judging the broader work of trade apprenticeship by the results achieved through the short intensive courses. In order to prove this contention, I have made just a rough calculation of what was accomplished. Assuming—perhaps a rank assumption—but assuming that there are twenty diversified operations possible on the various machine tools, that there are ten different fundamental types of machine tools, and taking the best results of our vestibule schools, we find that it took three weeks to produce a machine tender; on that basis it would take six hundred weeks to go around the entire trade apprenticeship course, or something like twelve years, where we are actually doing it in four. This one point, I believe, shows that the contention that trade apprenticeship courses can be shortened, based on the results of vestibule schools, is not worthy of serious consideration.

There was a statement—digressing somewhat now—made at this Convention, to the effect that trade apprenticeship was dead, and had been dead for five years. The statement was entirely irrelevant at the time, consequently it was not refuted. But I want to say, with all the emphasis I can possibly put into it, that trade apprenticeship, for a dead one, has taken a powerful sight of nourishment in the last five years.

There are representatives here tonight of Class "A" companies who are maintaining trade apprenticeship courses which are highly successful, covering the entire field of trade activities, pattern maker, core maker, molder, machinist, pipe fitter, toolmaker, printer, and all the others. I rather fear that the person who made that statement is not here this evening. Probably he thinks, and will continue to think, that trade apprenticeship is still dead; but I wish with all the emphasis possible to counteract the impression that may have arisen in the minds of some of the members that such might possibly be the case.

Our present system of trade apprenticeship is developing a group of men who, I believe, and I believe those who are working with us believe, are of a higher class than the old time mechanic ever was, for the simple reason that he has learned not only what to do, and how to do it, but why he does it in a particular way; something that the average old time mechanic never knew, so that when conditions slightly different from those with which he was familiar arose, because he did not know the fundamental principles of mechanics and mathematics involved in the proposition, he was completely stumped and could not meet the emergency.

GENERAL CHAIRMAN SHELDON: I will make a point in regard to the question of apprenticeship. I am finding one thing at the present time, and that is this, that the young men coming out of high school, who formerly sought office jobs, are coming in and asking for jobs as apprentices. We may soon have more of a problem in filling our office positions than in securing apprentices. I think the young man in the office realizes that the young man who takes the apprenticeship course will be in a better position financially and in all other ways, in years to come, than the office man.

Mr. Strait will now present the report for Section III covering the Trade Apprenticeship system in the Steel and Iron industry.

MR. C. E. STRAIT (American Rolling Mill Company): The steel and iron industry, as most of you know, is represented for the first time with a report on the trade apprenticeship system as it relates to that industry. The peculiar situation lies in the fact that the steel industry as a whole, representing perhaps as large a capitalization as any single one industry in the country, is the last one in on the apprenticeship proposition, and therefore, this phase of the subject has been treated in a section aside from the sections dealing with the apprenticeship system in connection with railroads and manufacturing establishments. The sections representing the railroads and manufacturing establishments, as most of you know, in past years have been very fully developed, and we have some very excellent material on these subjects. The main reason for the development of this section lies in the belief of some of us who are materially concerned with the work, that we have certain conditions under which we work, and certain systems, perhaps certain organizations, which differ essentially from those encountered in the railroads and in manufacturing industries.

Assuming that you have read, at least gone over, the report carefully, and are familiar with the subject matter as outlined, I shall not attempt to go into any considerable detail in presenting the report at this time, except to bring out such points that we think are of the most importance.

The hours of labor in the steel industry are based usually on a twenty-four hour day. This is true, to a certain extent in railroad industry, but not as much so as in the steel industry. Another point of difference lies in the wide variety of equipment represented in the various plants and mills used in connection with the iron and steel industry. We have no such thing as a classification of equipment, in any one line. The equipment is varied and the units are varied to such an extent that classification is practically impossible. This is, of course, one essential point of difference from that of the railroads, which have standard equipment. Thirdly, the committee believes that the personnel of the apprentices employed in the steel plants differs somewhat from that of those employed in the other industries.

Now, to make these points clear, particularly the personnel proposition, I would like to state, briefly, that the steel industry requires all-'round workmen; there are few jobs, we find, where we can make specialists. A man must have had an all around experience in the trade he represents. Furthermore, most of the work in the steel industry is repair work and that work is usually very dirty, greasy, and it is nasty stuff to handle from the standpoint of clean hands and a white collar. The result is that the young man entering the trade must feel there is something back of it for him in the future, that there is something he can work for, and something which he will really like, and if he does not feel this way, and does not like the business, he is practically useless as an apprentice. This, I believe, has been proven by experience.

With regard to the equipment, as I have noted previously, that comes in line with the experience which the man must develop as he goes through the work. The men dealing particularly with the steel mills are called upon to do repair work, which is very varied. I have noted in the report that the maintenance of such equipment varies anywhere from the repairs on a ¼-inch screw to a 16-inch blooming mill screw. The work also extends from repairs to a one-half horsepower motor to a 100,000 horsepower generator, and doing repair work of that kind, from a fraction of a horsepower to 100,000 horsepower, means a wide variation of work and a wide variation of experience, and that means that we must have men who have an all 'round training, who are able to do work of this class.

The table of contents covered on pages 290 and 291 are arranged for convenience, but if you do not care to read the whole report, and there is some phase of trade development you are especially interested in, and wish to compare that with the railroad or manufacturing proposition, these differences are classified, in the subdivisions which follow. I do not believe it is necessary to go into the detail of "Trades Represented," "Selection of Applicants" or any of the other features that are treated under various headings, with the exception, perhaps, of that headed "Foremen's Cooperation." I feel, and I believe I have the approval of the other members of the committee in this, that the foreman is a link between the apprenticeship course and the organization proper, the shop. It is absolutely necessary, we feel, to have his cooperation and willingness to help put forth the best efforts in bringing the man along. A number of means are suggested here —perhaps some of them are not adaptable in all cases, but many of them have been used and found successful.

There is one other point I would like to make in connection with Mr. Sheldon's suggestion of a few minutes ago, and that is with reference to the indenture or contract. We do not use an indenture. We (The American Rolling Mill Co.) do not have the boys sign an indenture or contract. They are given a statement representing the fact that they are employed by the company, that certain advantages are offered them, and that the company offers them certain things for certain things which they are to give the company. For what they produce they are rewarded, and that is all there is to it. We have no trouble with the boys if they want to leave the company. We do not attempt to follow them up in case they want to leave. We do not feel it is worth while, if they are not interested to the extent of wanting to stay, to bother with them, and that it is useless to attempt to force them into the work.

The tabulations given here under subdivisions, as noted in the preface, are general answers which were received to inquiries representing the consensus of opinion expressed by the majority of the members of the committee. In some cases there is a wide variation of opinion, and we have tried to state these variations of opinion and incorporate them in the report. Where we are unanimous in our decision, it is stated as a fact.

Other steel companies interested in this training proposition will find things different, undoubtedly, from what exist in this report in some divisions of their work, and that is one point I want to make, that this report is not made in a sense to standardize a method in which the course of instruction should be given or anything of that sort, but simply to give a general outline of what is being done, what has been accomplished, and perhaps furnish some suggestion as to possibilities of the future.

GENERAL CHAIRMAN SHELDON: I will call on Mr. Garvey to discuss this report under the head of "Manufacturing."

MR. J. J. GARVEY (Western Electric Company, Inc.): Mr. Carey asked me this afternoon if I would punch a few holes in this report. It is rather difficult for me to do it, because Mr. Carey and I think very much alike. The Westinghouse Electric and Manufacturing Company, and the Western Electric Company usually do, although not in all respects.

There are two or three things in the report I do not agree with. Our President this afternoon spoke about the public school having too many frills. I heartily agree with him, and I believe in the report on page 284, that when we attempt to put in such things as "Banking," "Personal Hygiene," "Patent Law," "Commercial Law," etc., in an apprenticeship course for boys from 16 to 20 or 21 years of age, we are certainly going a little too far towards frills. I do not believe those things belong there. Later on, if he remains with the company, he may have an opportunity to learn these things, but I do not believe he should be taught them in a trade apprenticeship course.

There is another thing I disagree with very much because it steps on a pet hobby of mine, as shown on page 283: "Ratio of Apprentices in Training Room to Total Number—1 to 8." We have a separate training shop for a very definite reason. When the apprentice is in this training shop, it is necessary to watch very carefully to prevent production from interfering with training. Your shop foreman will have a tendency to put practically all of his attention on production and very little on training, because he is not allowed to forget that the production of his department must come up to a certain standard, but, as a matter of fact, we do want him to forget it when it comes to the apprentice boy, because the apprentice boy must know, and not simply execute. That is why we originated the method of having an apprentice shop where the boy is by himself. When the boys are put in a shop by themselves, the people running the apprentice shop are actuated by entirely different purposes than the shop foreman. The man in charge of the apprentice shop is supposed to be a thorough mechanic himself, and not only that, but he is supposed to have the ability to tell the boys how to do the job.

The product of any training course is the man that is turned out at the end of the course, not the manufactured product that is made, and I am sure that if we go on this basis of one-eighth of his time in the four-year course spent under these ideal conditions, there will be very little advantage in setting up these conditions. That makes it six months out of the four years.

In our company we swing the other way. We require him to put in two-thirds of his time in the special shop, and would require him to spend it all there, except for one thing, and that is, we want the boy to go out in the cold world and have him get experience in the conditions he will actually meet when he has completed his training. When he is in the apprenticeship shop, we mollycoddle him along and put everything in his way so he can do the job right, and then we transfer him to the tool room where he comes in touch with the shop foreman, and is put shoulder to shoulder with the workmen, and given the blue prints and is expected to turn out the job.

These are the things in the report with which I do not agree and when they shorten the period devoted to the special shop, which we have set up with so much care, where we have carefully selected the instructors and where we have the skilled oversight that we do, I believe that it will be a step backward instead of forward and that our work will suffer in consequence.

Mr. G. H. Pfeif (General Electric Company): I have not very much to say in addition to what has been said, but I should like to ask Mr. Garvey a question. We believe it would be beneficial if we could keep our apprentices in the training room for a longer period than six to twelve months, but we have not been able to route enough work through the apprentice shop to justify our keeping them there. What kind of work do you give the men in the apprentice shop—do they work on certain lines of production?

Mr. Garvey: As I said a moment ago, our apprentices are toolmaking apprentices. In laying out our course, we have subdivided it into different subjects. When a boy starts on one of these courses, he starts the work in the special shop, and works a certain amount of time on that kind of work, and is then transferred to our toolmaking department. After he has completed the period we have assigned for that definite kind of work, he comes back to the special training shop and starts the next step with these men who are specially competent to teach him, and so on as he progresses through the work of the shops.

Mr. Pfeif: He spends a part of the time there, and goes into the shop and comes back?

Mr. Garvey: Yes.

Mr. Pfeif: How do you secure work for this special training shop?

Mr. Garvey: We go to the tool room and select from their orders the type of work that we need for training purposes.

Mr. Pfeif: You are lucky.

Mr. Garvey: We had to educate them before we could do that. They know the material we turn out is what is going to make the dollar later on.

Mr. Pfeif: That is one of the things I have in mind. We have not been able to keep our men in the apprentice room for more than twelve months. One reason for this is the fact that we need a large number of apprentices and cannot accommodate all of them in the training room.

I agree with Mr. Carey's remarks, about the increase in the number of apprentices. We have recently doubled the size of our apprentice training room, both in floor space and machine tool equipment, and we have increased the number of class rooms.

We have had some trouble, such as was mentioned, in sending men out in the shops because some foremen hold a good apprentice as he is so much better than a machine tender or machine operator. This is checked by a follow-up system which keeps an accurate record of what the boy is doing and we see that he is transferred from one job to another until his training is complete.

I should like to get in touch with members who are conducting drafting room courses.

Mr. J. E. Banks (American Bridge Company): We have had a drafting apprentice course for, I think, something like twelve years, and it has been very successful, particularly successful in turning out men for competing companies to take away from us, and we have had a good many experiences in that line.

Mr. Garvey: We also have a drafting course—two or three of them.

Mr. R. D. Fleming (Burroughs Adding Machine Company): We also have such a course.

Mr. C. S. Coler (Westinghouse Electric and Manufacturing Company): Our company has a drafting course.

General Chairman Sheldon: Do you desire to say anything under Section III, Mr. Wakefield?

Mr. P. E. Wakefield (Carnegie Steel Company): The Director of the Carnegie Institute of Technology in addressing the Pittsburgh Chapter about two weeks ago at our Annual Meeting said there was one thing he thanked God for, and that was that the Carnegie Institute of Technology had never yet crystallized. This is about the best description that could be given of the work of the Carnegie Steel Company in training apprentices—or at least the organization of that work—we have not yet crystallized.

I became actively connected with The National Association of Corporation Schools two years ago, and because of some rather rash promises on my part in the discussion that took place at Buffalo, I became the unfortunate recipient of a number of very polite requests for data regarding what we were doing. I was a good deal in the position of a man busy at the blackboard calculating the answer to a problem, who has someone at his elbow all the time asking—"What is the answer?" "What is the answer?" At the time of the receipt of these requests, the answer had not yet been worked out. I temporized—perhaps not so tactfully as I should have—and no doubt disappointed a number of gentlemen who had every right to expect every help I could give them. The truth of the matter was that we had not yet organized our work in any form that would make it possible for us to give out this data.

Since then I have been putting in two years of pretty hard work, and in order to make such atonement as I can for past shortcomings I would like to say that we now have our apprenticeship training work pretty well organized, so far as the Duquesne Works of the Carnegie Steel Company is concerned; and if anyone here cares to avail himself of that data, I shall be glad to furnish him with blueprints showing in detail just exactly what we are doing.

Our course in teaching blueprint reading, freehand sketching and mechanical drawing is now in complete form, and I can supply outlines of the entire course on request.

Our shop problems are pretty well organized, and by the beginning of next September I will be in position to furnish you with an outline of the course of lectures we are working up regarding the iron and steel industry, for the general instruction of the apprentices we have. So far as I know, there is nothing else I can say that would be worth listening to.

Mr. Edward S. Cobaugh (Midvale Steel and Ordnance Company): I do not hesitate to say that I think it is a great mistake that more time is not allotted this vital subject before a representative body, such as this, because I submit to you that this is one of the most essential of any committee reports that has been or will be brought up for discussion during the week. Our business is to make bad boys good and good boys better; therefore, I insist that our committee report is extremely essential.

We have been hearing, if you please, during the last four years or more, of nations conquering or being conquered, and I submit to you, ladies and gentlemen, that this country of ours will one day be conquered by a great army; an army compared with which that of Wellington, Napoleon, Alexander, Grant and Lee all added together were in numbers insignificant. They will capture all the pulpits, storehouses, factories and halls of legislation, all our shipping, all our wealth, and all our honors. They will take possession of all authority from the United States Presidency down to the humblest constabulary, of everything between the Atlantic and Pacific Oceans. They are on the march now and they halt neither day nor night. I hear them coming now and they will soon be here, and all the present active population will be called upon to surrender and give way.

I refer to the great army of growing boys of this nation, whether they shall take possession of these things for good or evil depends entirely upon the style of preparation thru which they pass on their way from the cradle to the grave.

I am extremely interested in this great problem. It is my business in life. I do not think we are serious enough with boys. We, as fathers, are not serious enough with our boys. Little Tommy came home from school late one day, and his father said: "Well, my son, how did you get on in school today?" Tommy replied, "Why, I was whipped hard and kept in because you told me the wrong answer." He then added, "Last night I asked you how much was a million dollars, and you said it was a hell of a lot—and that ain't the answer at all."

Ladies and gentlemen, we have a right to be serious when boys ask us a question, and endeavor to help them if we can. I submit to you tonight, that the more of our energy, strength and personality we put into the apprentice business of this country, the more we will get out of it. President Rowe referred this morning to a man who had an exhorter's license. That hit me square on the top of the head. Maybe you will find out that I am a "Shouting Methodist." If you will pardon a personal reference, I have a license as a local preacher, and I repeat the assertion, that the more we put into anything, the more we will get out of it.

I once heard of a local preacher who was called upon to fill a certain pulpit, and he took his little boy with him. When he got to the place of worship, he found, instead of a collection plate being passed in and out of the pews, there was a box inside the door with a slot in it. The old man pulled out a quarter and dropped it into the box. He preached the sermon, and after the service was concluded, one of the elders came to him, and handing him a quarter said, "Our custom here is to give the visiting parson the collection."

On the way home the little fellow, after quite some thinking, began to pull his father's coat-tail. The father, more or less annoyed, asked the boy what he wanted, whereupon the boy looked up into his father's face and said: "Daddy, if you'd put a little more in you'd got a little more out, wouldn't you?" This is only a rude illustration of the fact that we need to go into this thing knee-deep, and really up to our necks, in order to get a lot out of it.

I love my job, which is being associated with about one hundred and thirty boys, no two alike and some of whom do not enjoy very desirable environments in their homes. I visit their homes at times and have found environment very poor and in some cases very bad. I sometimes have occasion to bring them up "on the carpet" (as the boys call it). I may tell the Shop Instructor to send John Green up to my offce, that I want to see him. John appears, when I might say, "Good morning, John; sit down, I want to talk to you. You have been late five times this week." (He drops his eyes toward the floor.) "I suppose you blame it on your mother; she fails to call you in time." The boys answers: "No, mother calls me in time, but I won't get up." I love to talk to a boy until I can get inside of his heart and at times cause the tears to chase one another down over his face, and drop off the end of his nose. I know one boy who, if he cried, the tears would run down his back like a pair of suspenders, he is so "cross-eyed." Well, that is the very boy I am determined to finish with the best possible results, because of his handicap.

We have a three months' probationary period in our works, after which time we are expected to decide whether or not the boy will "make good," but it is quite a difficult matter to determine a boy's capabilities in so short a time. I have never discharged a boy at the expiration of his probationary period, because if I cannot make out of him a first-class mechanic, I make out of him what I can. There are two things for which I usually discharge a boy. If he is a downright loafer, I will discharge him; or if he has proven to be a liar, I will discharge him. I have absolutely no use for a boy who will not speak the truth.

I feel that I have the love and respect of every boy who is under my supervision. I say to them, "Boys, if you just give me half a chance, you will discover before you are here long, that I am your best friend." We need to instill hope in the hearts of these boys and thereby encourage them.

I never go about looking for the bad traits in a boy; if we look for them we will find them, for certainly every boy has some, but you will agree with me, Mr. Chairman, ladies and gentlemen, that every boy has good traits as well; therefore, I endeavor to find the good traits and develop them.

It is a great work, and if any of you men who hear my voice this minute have to do directly with the boy in the shop, do not be afraid to throw your arm around him, and make him feel that you are not only interested in him, but that you really love him, because some of these poor little fellows do not have anyone to love them when they get back home.

We have these boys in our charge more than do their parents; therefore, I feel it is our duty to take advantage of every opportunity in order to get the very best out of them. Our Apprentice School is now the possessor of seven shares of Midvale Steel and Ordnance Company's stock, the dividends from which will be used annually for the purchase of suitable prizes, which will be awarded to the boys who attain the highest combined average in shop and class room.

Is it not a wonderful work? Yes; and I think that every representative of this great association assembled here tonight ought to seriously consider the very best methods for the training of the boys of America the way they should go, because I need not remind you that the apprentice of today is the mechanic of tomorrow; therefore, we need to turn over every stone, and remove every barrier, thereby making the path for them as smooth as possible, so they may have every possible chance to make good in the future of their lives, and that is what I am going to do.

GENERAL CHAIRMAN SHELDON: Is there anyone else who desires to discuss this subject?

MR. O. E. CROSSEY (Montgomery Ward and Company): The question of training as discussed here tonight has been a great enlightenment to me and the men who are with me from Montgomery Ward and Company, and I should like to say a word in connection with the training of employes of the retail merchandising business. It is not generally considered that there is a trade in connection with retail merchandising, but we have found, after close study, that there are several trades in connection with retail merchandising and handling of merchandising stocks, customers' orders, whether it be in the wholesale or retail business.

We have gone, in a sense, one step further in the training of apprentices in our line of work. We are not training them so much with the view of creating mechanics as we are with the view of creating future superintendents; that is the general plan upon which we work. Of course, our business deviates considerably from the manufacturing, as Mr. Unger said; it is a mail order business, and our big problem is to find superintendents or men of higher caliber, and we are willing to spend six, eight or ten years in training men of that capacity. Our instruction plan activity has been in actual practice about five and one-half years, and we also train women as well as men. We have women managers of clerical departments containing from one hundred to two hundred and fifty employes in the department. Of course, these positions are considered very good ones, and it requires a great deal of specialized training to handle these departments, as the persons in these departments consist principally of boys and girls between the ages of sixteen and twenty-one years.

MR. JOHN H. LINN (The Atchison, Topeka & Santa Fe Railway System): The Atchison, Topeka & Santa Fe Railway has maintained an advanced system of apprenticeship for over twelve years. We are proud of the results accomplished, and would just as soon try to do without our power plants as without our apprenticeship system. Perhaps some of our experiences would be of value to you. If I were to emphasize one feature of our system more than another, it would be the importance of having a sufficient number of competent shop instructors to take care of the boys in the shop. The shop foremen in a modern shop has too many other duties to be trusted with the training and development of an apprentice. He is so vitally concerned with immediate output that he is apt to lose sight of the necessity of thoroughly training mechanics for the future. We are proud of the results being accomplished in our school room, but just as it is in the water where one must learn to swim, so it is in the shop, where the boy must really learn his trade. But he must not be left alone to sink or swim by himself. We employ a shop instructor for about every twenty or twenty-five boys, and hold him responsible for seeing that each apprentice is given thorough experience in all the work of his trade. He must be a skilled mechanic himself, a boy-loving man, capable of guiding and leading young men. He not only gives the instruction the boy needs on each job, but also decides when the apprentice should be changed from one class of work to another.

I was interested in your discussion of the importance of harmony between the members of the apprentice department and the shop foremen. For the benefit of those of you who have just inaugurated an apprenticeship system, I would state that there is apt to be more friction at the start than later on. A railroad man is naturally jealous of his prerogatives, and when certain duties are transferred from the shop foreman to the apprentice instructor, the former is inclined to feel that some of his responsibility has been taken from him. But this feeling will disappear as he finds out that, with the aid of the instructor, not only are better mechanics being trained for the future, but even from the start the apprentice boys, with the aid of the instructor, are able to greatly increase their immediate output.

The organization of our Apprentice Boards aided us greatly in bringing about harmony between the apprentice instructors and shop foremen.

These Apprentice Boards are composed of the general foreman as chairman, the immediate foremen under whom the apprentice works, the apprentice school instructor, and apprentice shop instructor. This board meets at least once a month and makes recommendations on all matters pertaining to apprentices. This board passes, once a month, upon the fitness of each boy in his first six months' or probationary period, and once every six months thereafter throughout the boy's apprenticeship.

The hour is getting late, and I must not take more of your time. I am sorry that this discussion did not begin earlier. The apprenticeship question is too important to be left to the second topic for an evening's program. I hope that the Committee, next year, in preparing the program, will allot much more time for the discussion of this vital question. In closing, I would state that three of our graduates, now in government work, came over from Hammond this evening to attend this meeting. Everyone on the Santa Fe, from the head of the Mechanical Department to the youngest apprentice boy, is a booster for our apprenticeship system.

PRESIDENT ROWE: It is now twenty minutes after ten and if there are no further questions the meeting will stand adjourned.

COMMITTEE ON EMPLOYMENT

SECTION I—EMPLOYMENT

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New York, N. Y.

MR. E. B. MERRIAM
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MR. H. W. DAHLBERG
THE GREAT WESTERN SUGAR COMPANY
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SECTION II—PSYCHOLOGICAL TESTS AND RESULTS SECURED FROM SUCH TESTS.

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SECTION IV—TO STUDY AND DETERMINE THE PROPER RELATIONSHIP THAT SHOULD BE MAINTAINED BETWEEN THE EMPLOYMENT DIVISION AND THE OTHER DEPARTMENTS OF AN INDUSTRIAL INSTITUTION.

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East Pittsburgh, Pa.

MR. R. C. ALLEN
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MR. W. E. DEMLEAU
A. M. BYERS COMPANY
Pittsburgh, Pa.

MR. N. F. DOUGHERTY
THE PENNSYLVANIA RAILROAD COMPANY
Clayton, Delaware

MR. E. O. GRIFFENHAGEN
ARTHUR YOUNG & COMPANY
Chicago, Ill.

SECTION I—EMPLOYMENT

METHODS OF DETERMINING COST OF LABOR TURNOVER

The problem assigned to Section I of the Committee on Employment Problems was to continue the study of labor turnover, paying special attention to methods of accounting by which the cost of labor turnover may be determined. In accordance with this assignment we limited our efforts to endeavoring to ascertain methods of figuring cost of labor turnover rather than attempting to collect statistics on the actual cost of turnover.

So far as we have been able to learn, but few companies have made any attempt to ascertain the cost of their labor turnover. Most of the figures published on cost of turnover are based on estimates; others are the results of an analysis of one department or job, and even then do not include all of the items of cost. The justification for this latter treatment is well expressed by an officer of a company in which some study of the cost of turnover has been made.

"We find that a general knowledge of the cost of the larger items is sufficient to stimulate us to make every effort to reduce labor turnover and we do not feel that the advantage gained by such detailed investigation would be sufficient to warrant the expenditure of the time and the money required."

Reasons for Determining Cost of Turnover

Before going further, we should stop and consider the reasons for and against a systematic study of the cost of labor turnover.

Based upon the opinions that we have been able to gather, the outstanding advantages of knowing the cost of turnover are:

1. Turover cost figures offer a better method of comparing results in different departments and companies, and periods of time than the use of percentage figures, as at present, based on the individual as a unit.

2. Such figures showing how costly turnover really is may serve as a stimulus to the management to take steps to reduce the loss from this cause.

3. Similarly these figures may be used to advantage in edu-

cating the foremen to the seriousness of needless shifting of the working force.

4. It is a means of demonstrating in a practical way the importance of "the skilful application of sound employment and service policies" in the handling of personal relations problems in the plant.

5. These figures may be used as a basis to determine the amount that can profitably be spent in reducing turnover.

On the other hand, it has been found that a graphic chart showing the percentage turnover by departments has been sufficient to stimulate foremen to cooperate with the employment department in reducing turnover. In fact, one company that used this method found that some of its foremen were leaning over backward by not letting men go that they should because of the effect it would have upon their turnover record.

The company, in making use of turnover cost figures, should not rely on these alone in determining the amount of money which shall be expended on a personnel department. Other factors must be taken into consideration. This point is emphasized by Sumner H. Slichter (7).

"Although turnover is important as giving rise to a large cost to the employer, its prime significance is not as a cost in itself, but as a symptom of conditions which are sources of loss to the employer.

"The conditions which cause large turnovers cause other losses even more important than those incident to the turnover.

"It is evident from this that the amount of money which can be profitably spent in removing the causes of the turnover is not necessarily limited by the cost of the turnover itself. It is limited by the cost of the turnover and all the other costs caused by the conditions responsible for the turnover. The amount that can be profitably spent upon an employment department is not simply the saving resulting from the greater stability of the force, but also the general increase in the efficiency due to selection of higher grade workmen better adapted to their specific jobs. The expenditure justifiable for an instruction department, for improvements in physical conditions in the plant, for higher wages, etc., is determined by the benefit resulting from the increased efficiency of the force as well as the saving in turnover costs."

Principal Items and Variables in the Cost of Turnover

Boyd Fisher (1) in his excellent analysis of the methods of determining the cost of turnover, lists the following variables in the cost of turnover.

1. Cost varies by classes of skill of employes hired.
    - A. Highly skilled.
    - B. Semi-skilled.
    - C. Unskilled operatives.
    - D. Laborers.
    - E. Clerks.

(Magnus W. Alexander (2) makes somewhat the same classification, except that he calls his third class pieceworkers and the fourth class unskilled laborers.)

2. Cost results will vary according to length of time new employes are followed up.
3. Cost varies according to the type and value of the equipment used by new employes.
4. Cost results will vary according to completeness of analysis.

We should consider the following items:

- A. Cost of hiring.
    - a. Employment office expense.
    - b. Cost of medical examinations.
    - c. Cost of advertising.
- B. Cost of instruction.
    - a. Share of training department's cost.
    - b. Value of foreman's or other workman's time spent in instructing the new worker.
- C. Cost of added wear and tear on equipment operated by green hands.
- D. Cost of reduced production on machines operated by green hands when payment is not strictly proportional to output.
    - a. Sumner Slichter (7) puts it this way:
        "Extra Labor.
        - a. Piece work.
            Day wages in excess of piece rate earnings paid new operators during learning period.

- b. Time basis.
  - Cost of time above the normal which the experienced worker takes to perform the operation.
  - Wages of extra men to make up deficiency in production until the new worker attains normal output.
  - Overtime wages paid regular employes to make up for lower efficiency of new workers."

E. Cost of excess plant necessary to make up production lost on machines operated by green hands.

F. Cost of scrap over and above the amount normal for experienced men.

G. Increased cost due to greater accident rate among new employes.

Professor Erwin H. Schell has classified the above items as follows:

I. Employment Costs.
  1. Labor.
  2. Materials and supplies.
  3. Overhead.
     (a) Fixed charge.

II. Education Costs.
  1. Use of training schools.
     (a) Labor.
     (b) Materials and supplies.
     (c) Overhead.
  2. Administrative Supervision.
  3. Spoiled Work.
  4. Depreciation of Machinery and Tools.
  5. Accidents.

III. Operation Costs.
  1. Increase in cost of labor due to low production.
  2. Effect of low production on overhead charges.

Other items which vitally affect the cost of turnover, but which are difficult if not impossible to determine, are mentioned by Mr. Slichter:

Profits which would have been realized on orders which it was impossible to fill because of lessened production.

Loss of good will and business and the expense of making adjustments and replacements for defective goods; greater number of mistakes made by inexperienced workers; less satisfactory service rendered.

Slichter brings out the point that in addition to the cost of breaking in a new man another factor of the cost of turnover is the limitation placed by turnover upon the amount an employer can profitably invest in his employes and consequently the limitations placed upon the output obtainable.

Efficiency is conditioned upon elaborate and intensive training of workers.

Such training is possible only when the force is relatively stable.

As prospects of newly hired men becoming permanent employes grow better. we may expect large sums to be spent by employers upon elaborate training systems and upon intensive development of workers

Analysis of Turnover Costs

In the foregoing paragraphs, the various factors that enter into the cost of turnover are listed. As already mentioned the cost of some of these items is extremely difficult to figure. For practical purposes then what elements should be considered?

E. H. Fish (6) in giving a specific case of the cost of labor turnover says:

"We are neglecting any mention of the actual cost of handling the separation of Smith from the Company and discovering and hiring Doe. Each of these items on the average costs a little less than a dollar, so may well be neglected seeing that we are by no means sure within many dollars of the other costs.

"It has seemed to the writer that it was better to put all the expenses, outside of actual training, under the general charge of overhead as that is where they show in most accounting systems. If we attempt to pick out all the items of spoiled work, damaged tools and machinery, additional expense for accidents and so on, we get into a maze of uncertainty."

Professor Erwin H. Schell is of the opinion that the relation of employment and educational maintenance cost to the payroll during the same period is a reasonably fair method of cost comparison between industries. Employment or educational maintenance cost per individual is usually too general a relationship to be of value unless all the conditions affecting the state of the relationship are clearly explained and accompany it.

In his work, Sumner Slichter (7) develops the following considerations to be taken into account in estimating the cost of turnover:

An accurate estimate is extremely difficult.

The precise amount of many items in the analysis cannot be accurately determined. The amount of other costs can be ascertained only by minute and laborious investigation and by accumulation of voluminous data.

Items which cannot be definitely determined are:

Excess depreciation of equipment, interest, depreciation, insurance, taxes and repairs on additional plant investment;
Loss of good will and business;
Expense of adjustments and displacements;
Lessened efficiency due to limitation upon training;
Demoralization of labor by uncertain duration of employment and frequent loss of job.

Cost items which are obtainable only with much difficulty:

Excess breakage of machinery;
Excess spoilage;
Excess accident cost;
Excess consumption of materials and supplies.

To estimate these costs it is required to know:

Typical cost due to breakage of machinery, spoilage, accidents and consumption of materials among experienced men. This typical excess cost incurred by new men in these respects until they reach what is regarded as normal efficiency. In order to estimate with great accuracy the typical breakage, spoilage, accident, and consumption of material rates among experienced and among new men it is necessary to obtain an average based on data from a sufficient number of cases to represent a typical distribution of ability.

When individual efficiency records are kept, it is comparatively simple to make this calculation. It is hardly worth while to collect these data for mere purpose of throwing light on cost of turnover. Better use some other method.

The simplest and most practical alternative method is to select one or several new workers of more than average promise—keep detailed record of their breakage, spoilage, and consumption of materials both during learning period and after they have obtained normal proficiency.

The number of variables which affect almost every item in the cost of breaking in men render the cost for one job no indication of the cost for another job even though the degree of skill required to perform each job is substantially the same. These variables are:

Value of machinery used;
Liability of getting out of adjustment;
Value of material handled;
Danger of new worker causing injury to self or others;
Effects of mistakes.

Since breaking in cost data are used to figure the *buying price;* that is, to show how much an employer can afford to *spend* to reduce turnover, in order to be conservative the cost must be *understated* rather than overstated.

Since the greater number of terminations of employment occur among new hired men, it is erroneous to charge each one of these terminations of employment with the total cost of breaking in a new man for the job.

It is proper to charge to the original termination of employment the total amount spent upon breaking in all of the men hired for the vacancy until it is permanently filled. Therefore, no charge should be made against terminations of transients who left before learning the job, since the cost of filling their places has already been charged against the original termination of employment.

For the above reason, it is necessary in order to ascertain the cost of turnover to know the *approximate average amount* spent upon breaking in men per termination of employment.

Method: $$\frac{T}{N} = A$$

T = Total amount actually spent upon breaking in all men for given position (including transients) over period to give typical experience.
N = Number of workers involved.
A = Average expenditure for breaking in new men for each termination of employment in given position.

In estimating turnover cost, some have made the *error* of assuming every man hired goes through the entire breaking-in period and represents a loss to the company of the entire cost of breaking in a man at that job.

A *second error* is neglect of the fact that newly hired men in many cases do not receive the full wage received by experienced workmen.

Sometimes the employer obtains the standard output for a period at wages slightly less than the standard rate.

Older men, even in cases of equal ability, are sometimes given more than new men. Therefore, a new man may actually be the cheaper.

A *third error* is in the method of treating overhead charges.

These points should be considered:

Charge entire overhead charges on additional investment in plant and equipment only when turnover, by reducing productivity of the equipment, makes necessary a greater investment.

It is clearly erroneous to charge the turnover with a portion of the overhead charges upon remaining investment in plan and equipment (not rendered necessary by the turnover) and for indirect labor costs in the ratio that it causes a deficiency in production.

Deficiency in production has no relation to these costs. A reduction in the turnover does not reduce them; an increase in the turnover rate does not increase them.

Deficiency in output does not measure the excess investment in plant and equipment for following reasons:

(a) There are many machines of which only one is required and which, because they preform fast and simple operations, are operated only part time. Production deficiency of new worker can be compensated by a longer period of operations.

One machine of several of the same type may normally operate part time. Deficiency of full time machines may be compensated by operating the part time machine full time.

(b) Deficiency may be made up by overtime of experienced worker.

(c) Reserve capacity (required for emergencies) may be called on to compensate for decreased output.

(d) Excess investment in certain items of equipment due to turnover does not require a proportional increase in investment in the shop as a whole.

Examples of Labor Turnover Accounting Methods

E. H. Fish cites a specific case of the cost of labor turnover involved in allowing Smith to leave and filling his place with Doe. He gives two methods of figuring, but we present here only the second, which the author says is not merely simpler but is possibly more nearly correct.

The manufacturing overhead is estimated at practically a dollar an hour. From the time Doe entered the service until he had passed the normal rate of productivity the overhead charge totaled $800. This amount spread over the $162 of work which he actually did, shows practically 500 per cent overhead against 250 per cent for the average man. From this the conclusion is reached that one-half of this overhead has been wasted.

Making use of these data the total cost for the training period would be:

Total wages paid Doe while reaching normal productivity		$211.75
Overhead paid during that time per man		800.00
		$1,011.75
Value of work done	$162.00	
Overhead which would have been paid if it had been done by Smith, 250 per cent	405.00	
		567.00
Net total cost		$444.75

The method used in analyzing the turnover cost in one department of Fayette R. Plumb is described by John M. Williams in "Hiring the Worker" (3).

In this department during the learning period, a flat rate is paid in addition to the amount paid for the work produced at regular piece rates.

It takes about six weeks for a new worker to become proficient enough to earn a fair week's wage on a piece basis, about twelve weeks' time to reach the full pay of an expert.

The results of the analysis follow:

Excess day work charges			$42.00
Overhead in departments, 130 per cent—			
	Production	Overhead	
Skilled worker	$24.00	$31.20 (130%)	
New worker, first 6 weeks	10.00	15.60 (156%)	
Excess overhead (26% or $2.60 per week)			15.60
New worker, second 6 weeks. Excess overhead $\frac{(6 \times \$2.60)}{2}$			7.80
Total cost of one man if he stays 12 weeks			$65.40

"If we add the expense of breaking in and training the five men who do not stay, the final cost is staggeringly high.

"The total excess in this department, not analyzed but taken in bulk and divided by the number of men trained over a given period, shows the final cost to the company per experienced man to be over $100."

The method of estimating labor turnover cost in use at the American Pulley Company takes into consideration the time element and the costs for different positions.

This method is described by Dr. William A. Sawyer as follows (6):

We aim to divide our costs into four general groups:

1. Help remaining for a period of less than three weeks.
2. Help remaining for a period between three weeks and three months.
3. Help remaining for a period over three months.
4. Help engaged but not reporting.

The first three classifications are for periods of time which we estimate mark periods where progress on an average takes place in the skill and productiveness of an employe. We figure that on an average three months is ample time in our business for the average man to reach full productiveness.

We next subdivide our employes into general groups covering the class of labor which we employ: Press operators, press helpers, assemblers, riveters, inspectors, others not including laborers working on assembling, machinists, maintenance, sash pulley operators, all general help not including laborers.

The cost under each classification is then figured by the following formula:

1. *Help Remaining for a Period of Less than Three Weeks.*

Our figures show that the average employe, leaving us within three weeks of starting, works eight days, consequently we estimate our average total cost of employes leaving within three-weeks period is eight times the daily estimate.

For example, press hands are estimated as follows:

(a) During first three weeks the new man is figured to consume directly a proportion of one other man's time daily, which is estimated at	$0.75
(b) A reduced speed of production for new man is estimated as costing	0.75
Lost productive labor	1.50
(c) Overhead on productive labor, estimated	1.50
	$3.00
Those classified as leaving within three weeks are estimated to average eight working days (8 × $3.00)	$24.00

2. *Help Remaining for a Period Between Three Weeks and Three Months.*

After three weeks we find, on an average, that the productiveness of an employe becomes better, the percentage of betterment varying with the particular group under which he is classed, consequently in ascertaining cost of replacement for those who have been with us from three weeks to three months, we average as follows:

Multiply the daily cost by 16½ (three weeks of 5½ days per week) to ascertain the cost at the end of three weeks and to this add a reduced daily cost, the employe having become more skilful, for a period which our records show as the average number of days over three weeks that employes' remain who leave us within three months.

The total represents our estimated figures of cost for employes leaving between three weeks and three months.

For example, take press hands:

After three weeks, conditions are estimated to better themselves about 80 per cent on an average; the cost would therefore be as follows:

16½ days at $3.00	$49.50
One-half of the balance of three months, 27½ days, at reduced daily cost of production of .60	16.50
Total	$66.00

3. *Help Remaining for a Period of Over Three Months.*

In arriving at cost of those remaining over three months, we adopt the same plan as above, adding to the full cost for three months the estimated cost for the average additional period.

For example:

Those classified as leaving after three months would cost the previous amount ($66) plus 27½ days additional, the balance of the three-months period, which at .60 is	$16.50
	66.00
Total	$82.50

4. *Help Engaged But Not Reporting.*

In figuring cost of those engaged but not reporting for work, we estimate the delay has cost us a figure represented by the overhead on the amount the operator would receive for one day's productive labor; or where other than productive labor is involved, a figure represented by one day's wages of the individual.

5. *Help Other than Press Hands.*

In the press room other than press hands are estimated as follows:

Unfamiliarity with work	$0.50
Foreman's time directing	0.25
Lost non-productive labor cost	$0.75

Calculations on the same basis as provided for press hands, except improvement after three weeks is 90 per cent.

6. *Summary of Labor Turnover Costs.*

	Not reporting	Leaving prior to three weeks	Leaving between three weeks and three months	Leaving after three months
Press room:				
Press hands	$6.00	$24.00	$66.00	$82.50
Other than press hands	3.00	6.00	14.43	16.49
Assembling room:				
Assemblers	6.00	44.96	138.93	185.13
Riveters	6.00	54.96	169.90	226.55
Inspectors	6.00	56.00	173.25	231.00
Other employes except laborers	4.50	24.96	68.53	85.58
Engineering	6.75	40.00	67.50	95.00
Maintenance	6.75	40.00	81.25	122.50
Sash pulley	3.75	16.00	44.00	55.00
Laborers	3.00	6.00	14.43	16.49

The remarks of CHARLES E. FOUHY, Employment Manager, Curtiss Aeroplane and Motor Corporation, have a bearing on this subject (6):

"It has been a predominating fact that the American is supposed to be a restless person who readily moves from one job to another without much thought or consideration to the part he plays in industry. An analysis of our removals as of recent date shows that instead of 60 per cent leaving of their own accord it is now only 7 per cent of the total. This indicates that the *supply and demand on the labor market is the barometer of labor turnover.* When jobs are numerous and there is keen competition for labor then labor turnover is high; when the reverse is the order, labor turnover is low.

"Our experience proves that if you base your service and welfare work on the premise that this alone will reduce your turnover then you are laboring under a wrong impression.

"For a six-months period, from January, 1918, to June, 1918, we found it cost an average of $2.72 for every person passing through the employment department as a new employe. In figuring the cost we took into consideration the following items based on the average number of persons hired: Indirect labor, treasurer's roll, expense material requisitioned, liability insurance, heat, light, telephone tolls, telegrams, telephone expense, employment advertising, traveling expenses, stationery and office supplies, rent, typewriters, fire insurance, fire and police, janitor service, overtime meals, miscellaneous supplies."

Conclusion

It is hoped that the information contained in this report will prove helpful to those desiring to make a study of labor turnover cost, and that it will lead those who have made some study along this line to contribute the result of their experience.

Many of the factors entering into the cost of turnover are so intangible it will never be possible to place an absolute dollars and cents value upon them. However, this should not deter companies from making a study of this subject. An approximation based on material offered by regular factory accounting systems may serve all the purposes of an elaborate investigation. The method proposed by Mr. Fish compares a new man's actual earnings with those which are average, or necessary to the running of the shop on a fair profit. It is believed that any modern system of cost keeping would supply the necessary data for this comparison.

The analysis of turnover cost in a key department is illustrated by the Fayette R. Plumb experience. This method has much to commend it, and is probably as good as any in starting this study.

The plan of the American Pulley Company takes into consideration the time required to gain a given degree of proficiency, the average time of service of those taking the training, and the skill required for different jobs. The time factor is sometimes overlooked in estimating the cost of turnover.

In closing this report we wish to refer to the recently published work of Sumner H. Slichter on "The Turnover of Factory Labor." The quotations from this volume are sufficient we believe to show the thoroughgoing character of his analysis. All phases of the subject are treated in the same exhaustive manner Those interested in employment problems will find this publication a real contribution to the subject.

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SECTION II—PSYCHOLOGICAL TESTS AND RESULTS OBTAINED THEREFROM

During the past few years psychology and mental tests have received a tremendous amount of publicity. This publicity has been frequently indiscriminate and in the nature of propaganda rather than conservative and scientific discussion. Extravagant claims have been made for the efficacy of such tests. The impression has often been conveyed that mental tests can infallibly select the right man for the right place, that they offer the final solution for the labor turnover problem, and that they can produce a contented working force by assigning each worker to the task for which his temperament best fits him. From other points of view, it has been argued that the selection and elimination of employes by means of tests increases the efficiency of an organization anywhere up to 200%.

The results of these over-statements of the efficacy of psychological tests appeared in numerous answers to the committee's inquiries. One reply says: "The very words 'psychology' and 'general intelligence tests' are nauseating, and I am frank in admitting that I dislike very much to be drawn into discussions with the so-called mental and employment experts. How to get rid of the considerable number of fakes now posing as experts is a matter of serious consideration. If they are permitted to continue their work, the result will be to discredit the more serious and thoughtful work being done by men who are in a position to know what they desire."

Undoubtedly, the best way in which to arrive at a true estimate of the value of psychology and of psychological tests is through education of the kind to which this Association is devoted. At the convention two years ago there was a very interesting round table discussion of this subject in connection with Mr. Vinal's report on "Vocational Guidance." This discussion, on pp. 148-154 of the Proceedings for 1917 is well worth reading to-day. It shows that even then systematic and scientific applications of tests were being made by our members.

The purpose of the present committee is to present to the members of the Association a concise report on the present standing and future possibilities of psychological tests. As a basis for this report, one hundred and eighteen companies, both in and out of the Association, were either visited or interrogated. Instead, however, of a long drawn out catalogue of what these companies have done and propose to do, the Committee has attempted to digest its information in such a way as to help others determine for themselves what the value of tests is and how they may be applied to their own work. The material of this report is therefore grouped about the following outline:

Outline of Report

1. Prevalent extravagant and nebulous ideas about psychological tests.
2. Psychological tests defined and described in the light of science and common sense.
3. The method of developing and applying tests.
    a. Analyzing the work.
    b. Testing the tests.
4. The claims made by psychology for the scope of tests.
5. The application of tests in the Army.
6. The application of tests in industry and the results.
    a. In employment work.
    b. In training work.
7. Practical aspects of introducing and giving tests.
    a. Who shall be chosen to do the work.
    b. Costs and necessary equipment.
    c. Place of work in the organization and relation to the employment mechanism.
    d. The danger of a wholesale application of tests.
    e. The importance of following up results.
8. General conclusions.

2. Psychological Tests Defined

In making its investigation the Committee encountered considerable confusion as to the meaning of psychological tests. Since the subject of this report is Psychological Tests and Results Obtained Therefrom, it is desirable to begin with a common understanding of what psychological tests are.

A psychological test is a set task which the person being tested is asked to perform. The nature of the task depends on the purpose in mind. Any task whatsoever may be used as the basis for a psychological test. For instance, a task on the typewriter, or a series of problems in arithmetic, or a task in crossing out all the numbers on a certain page, or a number of directions, or a series of questions—any one of these tasks may be used as the nucleus of a psychological test. Psychological tests are closely allied to physical or mechanical tests. Most machines are tested by being required to perform certain set tasks, and they are not accepted unless they can perform these tasks. The same practical principle is applied by psychology to human beings.

Some of the Committee's informants were under the impression that psychological tests were highly theoretical and intricate. As one employment manager put it: "We have no time for any such theoretical and highfalutin contraptions as psychological tests. The main thing we use is good, common horse sense." It was apparent to the Committee that tests as described above were quite in accord with "good, common horse sense." A simple truism in this respect is the well known example of a horse-dealer. A dealer, in judging a horse, relies largely on "horse sense"; but he would hardly risk a purchase until the horse had been put through his paces. Psycological tests consist of certain paces in which a person is given an opportunity to demonstrate certain of his abilities. There seems to be as much common sense in allowing a human being to demonstrate his ability as in allowing a horse to show off his paces.

Although any task may serve as the basis of a psychological test, there is a further factor which enters in. namely, the factor of scientific accuracy. A test is not strictly psychological until it has been carefully tried out and standardized. Many employers, for instance, give tests of one kind or another which they themselves do not call psychological because they realize that the tests have been imperfectly worked out and are not always given in the proper manner.

The most important thing about a test is the process of determining its meaning and value. Periodicals and newspapers at present are filled with sample tests which readers are asked to try on themselves and their friends. All kinds of claims are made for the meaning and value of these tests. But after taking these tests one usually asks: "What do they mean?" "What do they tell me about myself?" Finding the meaning or value of tests is the most important work of the applied psychologist. It is a comparatively simple matter to give a test, just as it is comparatively easy to take a doctor's instruments and test another person's temperature, pulse, blood pressure, etc. But after having done so, the chief problem still remains, namely, arriving at a conclusion. This matter of *testing the tests* to discover their value and significance is so important that it will be described briefly in the following section.

3. The Method of Developing and Applying Tests

According to the psychological method, the first step in the application of tests is to become familiar with the work in question. This is done either by doing the work, or making a close study of ti. On the basis of this study tests are chosen or devised which it is thought will involve the same ability as that required by the work. The next step is to try out the tests carefully on a group of twenty-five people or more who are doing the kind of work in question. For instance, if tests for clerical ability are being sought or installed, the proposed tests are given to a group of clerks whose ability is already known. The performance of these clerks in the tests is then compared with their known ability in their work. The degree to which they agree determines the value of the tests for that particular kind of work.

According to the technique and practice of psychologists of repute, this process of first determining the value of tests for certain kinds of work is an indispensable step. From a common sense point of view also, this step is reasonable. Considering the fact that there are thousands of tests in existence, all of which are in a sense tests of mental ability, it seems hardly reasonable to apply a few particular tests to a particular kind of work without making sure beforehand whether or not they actually work out. Several conspicuous failures of tests met with by the Committee were directly traceable to this omission.

4. The Claims Made by Psychology for the Scope of Tests

The nature of psychological tests is at once a clue to their purpose and their scope. A test, being a test of action, is a test of ability. It requires the individual to perform a certain task, and rates him according to his ability in the performance. In other words, it is a measure of ability, pure and simple, not ability in general, but ability in a certain definite and very specific kind of activity. For instance, if a stenographer is given a test in dictation and transcribing, that test is a test of specific ability. If she is given tests in associating words, completing sentences, or correcting faulty grammar, these are also tests of ability, but in different directions.

Tests may be divided into two broad classes: (1) tests for acquired ability, (2) tests for innate or potential ability. Tests for acquired ability are sometimes called educational tests because they are tests of what an individual has acquired through education and training. Trade tests are also included in this category. Tests of this kind are at present quite commonly in use. They include tests in arithmetic and mathematics for apprentices, clerks, bookkeepers, etc., tests in grammar, spelling, dictation, typing, for stenographers and typists, and tests in trade knowledge of various kinds for the trades.

Tests for Acquired Ability (Educational Tests).

These tests are sometimes spoken of as distinct from psychological tests. It would probably be more accurate to say that they had not yet been applied in accordance with the technique of psychology. That is, the tests were constructed and applied without any preliminary experiments to determine their applicability, the method by which they should be given, and the standards which should be used. These matters are left entirely to the discretion of the individual who happens to be giving the tests. The dangers of this method are marked. Even where the application of "educational" tests seems very obvious, it is extremely easy to make mistakes.

An interesting example of this was the experience of a large manufacturing concern which was having trouble with some of its edging machine operators on account of their inability to talk or understand English, or to do the simple arithmetic required by their work. A simple literacy and arithmetic test was devised, with the intention of preventing men of that kind from being hired by the employment office in the future. Before putting the test into effect, it was decided to try it out on the operators already at work. Seventy-five men were tested and the results compared with their piece-work production. It was found that the correspondence (correlation as it is technically called in the parlance of psychology) between ability in the test and ability at the machines was less than nothing—was negative in fact. The difference was such that the elimination of the men unable to do anything with the test would have brought the average output of those who remained 35% below the original average. It was found to be much more profitable to retain the illiterate men and pay an extra clerk or two to make up for their lack of knowledge.

Other instances were found in which tests that seemed to be simply tests of education or trade knowledge were given and it was later discovered either: (1) that the particular knowledge or education required by the tests was not necessary to success in the work or (2) that those who did have the knowledge required were nevertheless unable to succeed at the work. The conclusion to be drawn from this is that educational and trade tests, like other tests, must be carefully tried out before any prediction as to their value can be safely made. When such tests are tested by the method peculiar to psychology, the claims for their practical value are much more likely to be accurate.

Tests for Potential or Innate Ability.

Besides measuring certain acquired abilities, tests are also supposed to measure innate or potential ability. It is impossible to draw a sharp line of distinction between innate and acquired ability. However, the difference between the two is expressed in the statement that innate ability is the ability to acquire still further ability. For instance, a number of apprentices, before beginning their apprenticeship, have varying degrees of innate ability or capacity for learning the trade. It is this initial ability which psychological tests aim also at estimating, in order that a prediction for the success of an individual along a certain line can be made. It is obvious that this requires an even more careful procedure, for the character of the tests often has no apparent resemblance to the work for which applicants are to be selected. A candidate for apprenticeship, for instance, may be given the so-called Stenquist assembling test, which consists of a number of unassembled devices like an endless chain, bicycle bell, clothes clip, lock, gas valve, coin bank, etc. He is asked to assemble these parts and is graded on his ability to complete them. This test bears no apparent relation to the work of toolmaking and yet, with several other tests which have been tried out, it seems to measure the same ability as that required in the learning of toolmaking. This is but one illustration of what is meant by tests for innate or potential ability.

Although it is generally admitted that potential ability cannot be measured as easily as acquired ability, the former is rapidly becoming more important. The development of industry during the last fifty years has been toward a greater and greater division of labor, with less and less emphasis on trade knowledge. A job analysis recently conducted in a large manufacturing concern, and covering over 18,000 employes and over 900 different kinds of jobs, showed that 73% of all the workers did not require trade knowledge or previous trade experience. Most of them were on piece-work tasks which required training of a highly specialized kind, or else no particular training whatsoever. In the case of piece-workers, especially, the important thing to find out beforehand is their innate ability for a certain kind of work. Will they make quick assemblers, ready operators, or fast and reliable inspectors? The application of tests to this problem is a slow and careful process, but promises very fruitful results in time. Examples of the successful use of tests in this way will be given under Section 5.

Tests and Temperament, Character, or the Moral Qualities.

Tests, as has been seen, are tests of ability for performance. Insofar as ability is an indication of character, it also follows that tests are a measure of character. According to psychologists, however, tests are not calculated to measure temperament or character *per se.* They are not supposed to be a measure of the moral qualities as such. For instance, there is nothing in the application of tests that can measure a man's honesty, his truthfulness, ambition, reliability, steadiness, freedom from bad habits, his sociability, endurance, persistence, etc. These are moral qualities about which psychology and psychologists have as yet very little to say.

Psychologically, the moral qualities are highly variable factors rather than definitely determined casts of character. The present attitude of psychologists seems to be that the kind of character a man displays depends very much on the kind of a job he is given. For instance, if a man is given a task for which his lack of training and ability make him unfitted, he is very likely to display undesirable moral qualities such as lack of interest, unsteadiness, carelessness, irresponsibility, laziness, etc. Whereas if he is given a job for which his training and ability make him adapted, he is just as likely to show an enthusiastic interest in his work and to develop loyalty, patience, steadiness, industry, and other desirable moral or temperamental qualities.

This conception of the moral qualities is quite in contrast with the ideas held by many employers. Very frequently the employer places great emphasis on the securing of workers who are loyal and who have all the other desirable moral qualities. He assumes that a man who is industrious will always be industrious no matter whether he likes his job or not; that a man who is enthusiastic and full of energy will be the same no matter if his job is a promising one or not; that a man who has endurance and persistence, will endure and persist even under unfavorable conditions. This belief is not only contrary to the teachings of psychology but to the precepts of common sense as well.

Although tests are not calculated to measure the moral qualities *per se*, there is another point of view from which they may be regarded as very significant clues to character. If an applicant displays ability in certain tests, it is probably because he has been sufficiently endowed with the moral qualities which enabled him to cultivate that ability. A toolmaker, for instance, who displays in the tests a very thorough knowledge of his trade, indicates very clearly that he possesses certain moral characteristics which are desirable. The education of a man, or rather the use he can make of it, is largely dependent upon his habits of concentration, his determination and persistency, endurance, ambition, interest, energy, enthusiasm, adaptability, etc. Tests of acquired ability, therefore, are also tests of character in that sense. The important and significant feature is that the man should be tested and employed at work which will still further call forth the moral qualities which have gotten him as far as they have.

5. The Application of Tests in the Army

The tests used in the Army will have received so much publicity by the time this report appears that it is not advisable to go into too great detail. The two most important phases of this work from an industrial viewpoint, are the General Intelligence Tests and the Trade Tests. These two kinds of tests correspond roughly in their use and purpose to the distinction made above between tests for potential and tests for acquired ability.

Army Intelligence Tests.

The intelligence tests were primarily tests of natural or potential ability. Their purpose, in the words of the Government pamphlet on "Army Mental Tests" was to furnish "A fairly reliable index of a man's ability to learn, to think quickly and accurately, to analyze a situation, to maintain a state of mental alertness, and to comprehend and follow instructions. The score is little influenced by schooling." The series of intelligence tests most widely used was the Alpha series, which begins with a collection of circles, interlocked geometrical figures, series of letters, number groups, etc., which serve as the basis for a series of oral directions. It includes tests in arithmetical ability, verbal ability, posting or copying ability, and reasoning ability.

In practice, the ratings obtained by the men in the intelligence tests were entered upon their personnel record as an additional guide to Personnel Officers in making their assignments. The immediate purpose of the tests was to point out illiterates, discover men of extremely low and high intelligence, make it possible to pick out men for special training and promotion, and to form organizations of uniform mental strength. In the words of the pamphlet on "Army Mental Tests" just referred to, "The mental tests are not intended to replace other methods of judging a man's value to the service. It would be a mistake to assume that they tell us infallibly what kind of soldier a man will make. They merely help to do this by measuring one important element in a soldier's equipment, namely, intelligence. They do not measure loyalty, bravery, power to command, or the emotional traits that make a man 'carry on.' However, in the long run, these qualities are far more likely to be found in men of superior intelligence than in men who are intellectually inferior. Intelligence is perhaps the most important single factor in soldier efficiency, apart from physical fitness." This seems to be an excellent commentary on the purpose and scope of these tests.

As to the value of the results of these tests, there seems to be very little doubt. In general, it is conceded that their application was a great aid in the proper and expeditious classification of the Army. Attention was called to degrees of intelligence which would very frequently have been overlooked without this aid. An extensive report of this work is being prepared by those most closely concerned, to which the attention of Association members will undoubtedly be called.

Army Trade Tests.

The trade tests, as their name well indicates, were calculated to discover acquired ability in a specific trade rather than general innate ability such as is indicated by the general intelligence tests. A trade test consists, first, of a series of questions based on the work of the particular trade in question; second, a set of blueprints or photographs upon which a further series of questions is based; third, an actual task, typical of the trade, which the applicant is required to perform. An automobile mechanic, for instance, is asked to adjust a carburetor; a driver to drive a truck or automobile over a staked out course; a blacksmith to forge together two pieces of iron and twist them into a hook; a pipe-fitter to fit together certain lengths of pipe according to a sketch; a carpenter to shape a board to a given sketch, etc., etc.

It is sometimes said that the Army trade tests are not psychological tests. As a matter of fact, they were developed by psychologists in conjunction with other experts and in accordance with the psychological technique which has been described above Trade tests are considered a subdivision of psychological tests. In order to be most practical, they must be devised and applied with all the care and caution which the psychological method insures.

The trade tests were very valuable in enabling the Army to differentiate between men belonging to the different standard trades and grades. The superiority of this method over the old method of asking a man how long he had worked at this and at that kind of work is obvious. The exigencies of the military situation made it necessary to have methods which would make it possible to tell in advance what a man's ability was. It was seldom possible to do, as industry does, give a man a few days or weeks' trial on some actual work. The needs of the Army were such that men often had to be classified and assigned to certain units weeks and sometimes months before their trade ability would be given a chance to show itself. Once the men had been assigned to permanent units or sent overseas, it was a tedious process to correct mistakes. In making a quick and intelligent classification, therefore, the trade tests were of great value. Here again, those directly concerned with this work have already given more complete descriptions than the scope of this report warrants. A full account is now being prepared for publication by the United States Labor Bureau.

Significance of the Army Intelligence and Trade Tests for Industry.

What most concerns the readers of this report is the prospective value of the Army tests to industry. There is obviously a difference between the two problems. The classification of men for the modern army is highly complex as compared with the classification of former armies. It is crude, however, when compared with the classification required by industry; for industries are not only innumerable in their variety, they are also highly specialized within themselves. For this reason, it is impracticable to take the Army tests as they are and apply them to industry. This fact seems to be generally admitted by the men most active in developing them.

In the first place, the general intelligence tests are too general for industrial purposes. When a man enters an employment office and applies for a job, the most important factor is not his degree of general intelligence but his specific intelligence or specific ability with reference to certain specified kinds of work. Ability to construct sentences, to figure out arithmetical problems, to post figures according to a key, to think of the appropriate word, etc., etc., has not much in common with the special kinds of ability required to run an edging machine or a punch press, or to assemble a number of parts, or to do any one of the thousands of kinds of operating work characteristic of a typical industry. Neither has it much in common with a great many of the varieties of routine clerical work. The great majority of jobs are based, not on degrees of general intelligence, but on certain very specific kinds of special intelligence. This ability or rather, these abilities, are susceptible to being tested; but the tests must themselves be tests which are specialized and refined.

Where intelligence tests have been used in industry it has been, for the most part, on a small scale. One or two short intelligence tests, occupying from five to ten minutes, are sometimes given to an applicant, whereas from fifteen to twenty minutes may be devoted to tests based squarely upon the kind of work for which the applicant is applying. The Army intelligence tests alone occupy a period of one hour or more. This is obviously a rather long examination for a result which is indefinite.

The trade tests are tests for specific ability. Their chief value lies in their concreteness, and in the fact that they involve the ability actually required by a certain job to a much greater degree than do general intelligence tests. However, as they stand, they cannot be applied to particular industries. In every industry they must be adapted or revised so as to cover the peculiarities of that particular industry. When this has been done, they must be tested out on the men in that industry whose abilities are already known, in order to determine whether the tests really detect the various abilities of the various men. Unless a set of tests can successfully pick the men already engaged and known, it is not considered safe to use them as a basis for selecting and rejecting applicants.

The greatest value for industry of the work done by the Army lies probably in the interest and technique which it has promoted. Far more valuable than the tests themselves is the technique by which they are developed. Those who have been trained in this technique can now enter various industrial fields and apply it under the conditions peculiar to the particular industry. This means a very careful and thorough study of the industry or organization itself, a fact of utmost importance in the success of the results. The psychologist must master these peculiariites before he can apply his technique with good results.

6. The Application of Tests in Industry and the Results

Out of the 118 companies who were either visited or interrogated, 29 companies or 25 per cent. were using tests, 18 companies or 15 per cent. expressed their intention to apply them, and most of the rest were very much interested. For the purpose of this report, several typical and concrete cases are presented. The most extensive and thorough application of tests known to the committee has been made by a typical manufacturing concern employing between fifteen and twenty thousand men and women. The work in this concern began about two and one-half years ago with the request of a psychologist for permission to perform an experiment in order to try out the practical value of certain tests. He was given permission and at the end of his experiment handed in a report covering a certain type of work. On the strength of this initial experiment, the company engaged the psychologist to give his entire time to the further development and application of tests. At the time this information was obtained, tests had been developed and applied to nine or ten different types of work, and over 6,000 applicants had been given tests in the employment office. All of the tests used were first tried out experimentally on the workers already engaged, and their practical value was demonstrated before they were given to new applicants. In this experimental work, over 1,800 workers were tested in the shops and offices. Instead of applying general tests to all kinds of work at once, each type of work was dealt with as a unit. A staff of four trained examiners with several special clerks was built up to take care of the work, which was done in conjunction with the employment office. Applicants applying for kinds of work in which the examiners were prepared to give tests were sent from the employment office into the testing room. On the basis of the tests they were either recommended for the work in question or for some other kind of work and then sent back to the employment office where the transaction was concluded. The kinds of work for which tests were given included that of assemblers, inspectors, apprentices, typists, stenographers, comptometrists, clerks of various kinds, and machine operators.

General intelligence tests were tried out from time to time. The Binet-Simon series, and tests resembling the Army intelligence tests were given. However, it was demonstrated time and again that general intelligence was too broad a combination of qualities to deal with and that there was seldom any correlation between general intelligence and success at a particular kind of job. Besides, it generally required at least an hour to give a general intelligence test, whereas the more specific tests took only from fifteen to thirty minutes. This fact, coupled with the fact that the results had only a very vague significance with regard to an applicant's fitness for a certain task, made it impracticable to continue the general intelligence tests.

The results of the selections made were carefully followed up in a variety of ways: (1) by means of obtaining production records of those workers engaged in piece-work; (2) by calculating the labor turnover; (3) by a periodic follow up made at the end of every month for three months and every third month thereafter. A very fortunate occurrence from one point of view, obtaining an estimate on the results, was the fact that the stress of war often made it necessary to engage applicants for certain kinds of work in spite of the recommendations of the psychological examiners to the contrary. This made it possible to obtain a line on the results which could not have been obtained if all recommendations had been strictly observed. An example of the results in each of these three types of follow up may be given. (1) By production records. The average hourly piece-work production of a group of forty-five girls, for a period of two months, showed that thirty-nine of the number had averaged above the task required, while six had fallen below. Every one of the six had failed in the tests, while thirty-seven of the thirty-nine successful piece-workers had passed the tests. (a) Labor turnover. Of 437 factory operators who had separated, seventy-nine had not been recommended, ninety-one had been recommended only for a trial, and the remainder had been recommended. The average length of service of those who had not been recommended was 46% less than that of those who had been recommended. Approximately the same percentages obtained in the case of 487 clerks. In attributing these differences to the increased certainty of selection, it is assumed that all the various reasons for leaving in the different groups would neutralize themselves. (3) Periodic follow up. Of over 400 clerks recommended on the basis of tests, and followed up at intervals of a month, the opinions of the foremen and division heads increasingly vindicated the decision of the tests. At the end of one month, 79% of the clerks recommended were called O.K. by their superiors. At the end of two months, this per cent.

was increased to 84. At the end of the third month, 89% were rated good. This indicated an increasing tendency of the results to vindicate the selections originally made by means of tests. An analysis to discover the reason for disagreement in the case of the other 11% revealed the fact that some of the clerical tests were too general for certain kinds of clerical work. That is, they required ability in arithmetic where the work itself did not. Or they required ability in other directions where the work itself did not require this ability, or required, in addition, ability of some other kind. As a further result of this follow-up and analysis, a systematic job analysis was made, outlining the specific requirements of every job. At the present time, tests are given with these specific requirements or specifications as a basis.

A careful estimate of the cost of this work showed that it was about $1.50 per person examined for the first year, which included a considerable amount of experimental work, and was likely to be about $1.30 per person for the second year, when the experimental work would be proportionally less.

Probably the most conspicuous example of the application of tests to industry is the work of developing tests for salesmen carried out by the Carnegie Institute of Technology. Under the direction of Walter D. Scott, a group of about twenty large companies undertook about three years ago to subsidize a bureau of research in the development of tests for salesmen. The following statement from one of the companies concerned will give some idea of the nature of this work:

"This company has been using the Carnegie System now at certain of its supervised agencies for about a year. The plan consists in the formation of a Rating Committee of from three to five men. Each candidate is brought before these men separately and is rated upon seven different characteristics, as follows: Appearance and Manner, Convincingness, Industry, Character, Personal History, Reports, and All Things Considered of Value to the Firm.

"Each candidate is given a due weighting with similar weightings from the mental tests, and our experience has been satisfactory though not extensive enough to make the proper tables to absolutely prove that a man who does not measure up high on the mental tests may be a failure as a salesman.

"The value to us of both of these plans, however, is in the training that it has given those of us who are doing the rating in pre-selection. In other words, if we get to the point, with the information blank and rating scale, where we realize that the ratings are to be low, we do not go any farther with the man, and we are certain that the plan in itself has given us a very much higher grade of men.

"It is our purpose to re-rate these various men and to carry from time to time their business results along with the rating. We believe that the results already secured warrant our continuing to use the Carnegie plans of rating and mental tests, and we are planning to enlarge them and ultimately use them in all of our supervised agencies."

In trying to solve the problem of selecting salesmen, psychology was pitting itself, in the very infancy of its technique, against one of the most intricate of all problems which it could possibly have tackled. The peculiar elusiveness of the qualities of successful salesmen is a well-known fact to students of the subject. However, indications are that a very measurable degree of success has been achieved in this field, and that a valuable stimulus has been given to a still more careful study of the problem.

Recently, at the annual assembly of salesmen for a large manufacturing house, tests were given to all salesmen. The tests were given to the men in groups, and each series occupied a little over one hour. The tests were devised in such a way as to reinforce the general sales policies of the company and to furnish a definite mental stimulus to the men. In these respects they were considered very successful. In addition, they were also given with regard to their possible value in selecting new salesmen. Their results in this respect were also very promising.

The application of tests to retail salesmen and saleswomen offers a similar and yet distinct problem. Various attempts have been made to apply tests in this extensive and extremely important field. However, until very recently it has been almost impossible to obtain any satisfactory results. This has been due to several causes, among which are: (1) The extremely loose organization of most large department stores in matters of personnel and standards of sales efficiency; (2) the absence of training schools in which the progress of new employes could be watched under controlled conditions. It is practically impossible to determine the value of tests in organizations whose work and workers are loosely organized and poorly standardized. Indeed, one of the most valuable features of the test method is its rigorous thoroughness and the effect which this has in calling attention to the lack of these basic features in the work already being done.

In New York City, one large department store has attacked this problem in a very thorough way and with considerable success. A student of Barnard College was allowed to carry out some experiments among the salesgirls of the training class, with very promising results. Her experiments are described at length in the June, 1918, number of the Journal of Applied Psychology. As a result of her work, she has been engaged to devote all her time to the further development and application of these tests. It is still too early to make any definite prediction as to the final results. Even in this store, more highly organized with respect to training and work standards than the majority of department stores investigated, the difficulties have been numerous and involved. Nevertheless, the method of attack adopted seems worthy of imitation. There is no expectation of immediately finding a set of tests by which all salesgirls can be satisfactorily selected, but rather a conservative and scientific attitude of taking one step after another in developing tests that shall in the end prove valuable. This is an excellent example for those who raise the question as to how they should attack the problem of adapting tests to their own industry.

A large department store in Philadelphia has made even further progress in this field. When the visiting member of the Committee arrived at this store, the young woman in charge of the work was conferring with the head of one of the departments regarding the make-up of some new tests which she was about to try out on the girls of that department. The tests used in this store have been carefully adapted and have demonstrated unquestioned worth.

A large service corporation which, a few years ago, tried out a number of tests under the direction of Hugo Muensterberg, the pioneer in industrial psychology, has recently taken steps to resume this work. Some of the results obtained in the past have encouraged them in this determination.

Three companies make specific mention of tests for office boys, one of them with favorable comment, the other two with unfavorable. The work of the office boy is one of the lowliest in the category, and yet it is in some ways one of the most complex and baffling of all positions. It is extremely difficult to analyze, in terms of definite tests, the qualities required for successful office boys. One very careful experiment conducted with thirty office messengers under a chief and his assistant showed very poor results. The tests used were tests for name memory, face memory, ability to understand and carry out directions, a maze test, arithmetic test, object memory test, and several others equally apt. As a matter of fact, none of these tests, singly or in groups, correlated with the known ability of the boys. Thereupon the Binet-Simon series (Stanford-Revision) was given with equally unsatisfactory results. Nevertheless, it was found that there was a very close degree of agreement between the length of service of the boys and their ability as office messengers. This would indicate that by far the most important factor in their success had been time and experience in learning routes and routine procedures. This is one of the fruitful fields for further investigation. Probably one reason for the unsatisfactory results in the two cases mentioned above is the haphazard character of the office boy's work and duties. Only in very rare instances are the duties of an office boy definitely defined and laid out. Consequently, it is very difficult to judge, except in the most general way, how various office boys compare with each other.

Indeed, one of the most common difficulties in applying tests to particular jobs is the fact that the duties of a job are so frequently undefined. If the duties of a job are not very clear, the comparative success of the workers cannot be very definitely determined. And if it is difficult to compare the success of various workers at a given job, then it becomes also difficult to determine the value of specific tests when applied to those workers. Therefore, one of the most valuable aspects in the attempt to develop and apply psychological tests to certain kinds of work is the fact that such an attempt often calls attention to a poor arrangement of tasks and duties. It often calls attention to the need for time studies, standardization of work, more uniform organization, and better supervision. Where tests fail to work, it has often been due not so much to the inadequacy of the tests themselves as to the lack of a solid groundwork in organization and standardization upon which to base the tests.

In some cases the lack of standardization in work is due to poor management. In others it may be due to the nature of the work itself. For instance, the tasks of minor and major executives are usually of such a nature that they can never be made uniform or standard. Consequently, it is almost impossible to apply tests with any degree of certainty to such positions.

The tendency at present is to apply tests to classes of work in which the tasks are definite and more or less subject to standard measurements. Trades, the work of stenographers, comptometrists, dictaphonists, routine clerks, telephone operators, and in general the large field of work which is susceptible to piece-work division, are the best fields for the application of tests. The field of piece-work includes a great variety of operating, assembling, and inspection jobs. A large printing-house has recently developed tests for copyholders and proofreaders, and is experimenting with additional tests.

The Application of Tests to Training.

Some of the difficulties described above are being rapidly overcome by the introduction of training schools. The application of tests and the development of training are complementary factors in the process of selecting and holding employes. To begin with there can be no training until the work in question has been carefully mapped out. When this has been done, the progress of an individual can be properly measured, and some check put upon it. One means of measuring the progress of individuals is through the use of tests. These tests may consist either of the work itself or of tasks that are based upon the work being taught.

The office training school of a large corporation gives periodic tests to determine the progress of its pupils. Another corporation is planning to apply this method to the training of minor executives. It had been the custom of this company to send men out into the shops to learn various things about the business, but in no case has there been any provision for checking the knowledge which these men were acquiring. Therefore, periodic tests were planned, the purpose of which was to discover how much the student was learning, and whether or not he was acquiring the right kind of knowledge. In developing these tests it immediately became apparent that the course was too loosely arranged and too indefinite in its nature. Consequently, a very marked improvement had to be made in this respect also.

The application of tests to training not only exercises a check on the pupils, and incites them to greater effort, it also exercises a check on the training methods themselves. In the opinion of the Committee, tests applied to training promise to become as important, if not more important, than tests applied to selection.

7. Practical Aspects of Introducing and Giving Tests

(a) *Who Shall be Chosen to Do the Work?*

At the present stage in the development of applied psychology, the success or failure of psychological tests in industry depends largely on the individual chosen to apply them. Two important factors should be borne in mind in selecting an individual to do this work:

(1) The extent to which he possesses the proper technique.

(2) The extent of his knowledge of industrial conditions or his willingness to acquire that knowledge.

Because of the recent development of applied psychology, comparatively few individuals, even among psychologists themselves, possess the technique of developing and applying tests in the manner described above. However, a psychologist, because of his previous training, is able to acquire this technique in a comparatively short time. (By a psychologist is meant here an individual who has received a master's or doctor's degree in psychology, comparable to the degree M.D. in medicine. It is often claimed that every person is a psychologist to a certain extent, a statement which is undoubtedly true just as it is true that every person is, in a certain sense, a doctor.) It is therefore desirable to initiate this work through the securing of a man or a woman who has had special training in the various branches of psychology. Several companies located in cities with universities which give courses in applied psychology, have allowed graduate students to come into the organization and do preliminary experimental work. In this manner they have been able to obtain in a permanent capacity young psychologists, trained in the latest developments, and open to further development in contact with the particular needs of their organization.

With regard to the second condition, familiarity with the conditions of industry and labor, few psychologists can lay claims to such knowledge at present. It therefore devolves upon the particular industry to engage psychologists in such a manner that they will be placed in a position to absorb this knowledge. However, the psychologist who carefully applies his technique to the development or installation of a set of tests for a particular job is sure to become familiar with the details of that job—that is, if he applies his technique to not more than two or three kinds of work at a time. Moreover, by working in close conjunction with the employment or personnel department, he is still more likely to absorb the necessary knowledge of the problems peculiar to the organization.

A number of men who were engaged in applying the Army tests will probably be available for this work. However, among all the numerous men engaged in applying these tests, only a very small number were actually concerned with their development. The latter will be equipped with the necessary technique, the former may or may not be. Another point to consider is the industrial experience of these men, for in adapting the Army tests to industry, this is an extremely important factor.

(b) *Costs and Necessary Equipment.*

The equipment necessary for developing and giving tests is for the most part very simple. The complex apparatus used in the laboratories cannot be used to advantage in the employment office. None of the plants visited used any complex piece of apparatus. Simplicity and directness seemed to be the keynotes. The greatest amount of equipment is required by the trade tests, but this equipment will naturally be a part of the equipment already in possession of the particular plant.

The cost of installing and giving tests is a factor that must be carefully taken into consideration. All preliminary experimental and clerical work will naturally be a part of this cost. The only estimate obtainable was one made by the firm which was described above as having made the most extensive use of tests so far. According to its estimates, based on the number of people examined in the employment office, the cost per examination was $1.50 per person the first year and $1.30 the second year. This estimate was obtained by taking the total cost including all installation work, and then dividing by the number of people who were either hired or rejected on the basis of the tests used. In preparing to introduce tests, their probable cost can be roughly estimated by taking the number of people to whom they will probably apply, and dividing it into the estimated cost of the force required to install, maintain, and give the tests.

The time required to test an individual may vary from fifteen minutes to one hour or more, depending entirely on the importance of the position and the character of the tests.

(c) *Place of Work in the Organization and Relation to the Employment Mechanism.*

Almost invariably, the giving of tests is a part of the employment function. The exact location of this work in the organization naturally depends upon the character and size of the organization. A company which is large enough to have a functionalized personnel department, of which the employment office is but a part, is probably large enough to engage a psychologist to develop and give tests exclusively. If the company has a thousand or more employes, one or more assistants will probably be needed. One company with an enrollment of about 18,000 had a staff of five examiners who gave practically all their time to this work.

For the sake of the development of this task it is advisable, at the outset at least, not to subordinate it to the employment head, but rather to the head of the personnel or industrial relations department. The employment office will handle applicants according to routine, but will turn over to the psychological examiners all applicants who can be tested. The examiners can then make their recommendations to the employment office, and the employment office will complete the transaction.

In smaller companies, which cannot afford to separate their personnel and employment functions, companies of 500 or less, it seems advisable to engage as employment manager a man or a woman who has had training in the psychological technique and who has common sense besides. Such an individual could not only take care of the ordinary employment work but could, with a little assistance, develop and apply tests besides. Employment managers may object to this. But when it is remembered that employment to-day is largely a matter of individual training and experience, rather than a universal system or science, it seems very reasonable to suppose that a psychologist can, in addition to his technical knowledge, cultivate the ability required by the ordinary employment routine. In fact, he might bring to bear on his problem an outlook and a method which would tend to establish the entire employment routine on a sounder basis.

(d) *The Danger of a Wholesale Application of Tests.*

One of the first lessons to be drawn from the experiences of others is the danger of a sudden and wholesale application of tests. An organization or an enthusiast who takes a group of tests and says: "Now such and such tests apply to the selection of clerks, these to the selection of machine operators, these will select people with manual dexterity, these will do for the choice of executives," etc., is inviting failure at the very outset. For, according to the psychological technique as it is commonly understood, as well as according to the dictates of common sense, no tests can be safely applied without a preliminary trial or series of trials to discover whether the tests proposed actually apply to the particular jobs for which they are intended. Even though the tests have been tried out and used elsewhere, it does not follow that they will do equally well in a new situation or under new conditions. In introducing tests or adapting them to a particular industry, the usual course is to take such tests and to try them out on a few kinds of work at a time, adapting them to the particular needs of the particular jobs of the particular industry. Such a procedure reduces the possibilities of failure to a minimum, and insures results that are based on a solid foundation.

(e) *The Importance of Following Up Results.*

In this connection, it is of the utmost importance to maintain a close follow up of the results where tests are installed. Several companies were found to be using tests on faith, or simply because some time in the past the tests had been "sold" to an official in the organization who was convinced of their value. Two companies had been using the same tests in unaltered form for over three years and were still convinced of their value but had not definitely followed up the results. Very little psychological work has been done so successfully as to justify such neglect. All selections, or at least typical selections made on the basis of tests, should be followed up in a systematic manner. There are several ways in which this can be done, as has been pointed out above. First, by using piece-work production averages as a basis of comparison; second, by finding out the reasons for separations; third, by means of a monthly or bi-weekly follow up direct to the foreman or office head. In conducting such a follow up, it must be remembered that the results of selection according to the old methods have almost never been followed up. There is therefore no basis for comparing the results based on tests with the results based on the individual judgments of the employment office. Very few employment men have taken the trouble to follow up the direct results of their selections. The psychological method, however, laying claims to a scientific technique, cannot afford to omit this part of the program. Neither can the employer, going to extra expense in order to apply tests, afford to do without a very minute and impartial scrutiny of the results.

8. General Conclusions

The investigations and deliberations of the committee may be summarized in a general way under the following points:

1. The purpose of psychological tests is conservative and the technique of developing and applying them is sound, both from a scientific and from a common sense point of view.

2. The number of instances in which such tests have been successfully applied under certain industrial conditions warrants the belief that they can be successfully extended to other industries.

3. The success of any particular attempt to apply tests depends largely upon the seriousness and thoroughness with which it is made. The failures of tests in the past have been usually attributable to superficial preliminary tests and superficial methods of giving the tests and following up the results.

4. The work of the Army, even though the tests devised can not be directly applicable to industry, has developed an interest

and skill in the psychological technique which can be made of immense value to industries who know how to appropriate them.

5. In devising and applying tests, the matter of costs should be carefully considered, and, as far as possible, tests should be first applied to tasks which have the largest turnover or in which the turnover is most costly.

6. Tests should not be regarded as a substitute for the ordinary employment interview but rather as a supplement to assist the interviewer in reaching his conclusions. The relative value of both can only be determined by experience.

7. One of the most important features in connection with the use of tests is the maintenance of a careful follow up to determine the value of the results. Such a follow up will not only enhance the value of the tests but will cast a welcome light on employment methods in general.

8. The application of tests to the problems of training promises to become a very important phase of personnel development.

9. The application of the psychological technique to employment problems results in certain by-products which are extremely valuable but which the scope of this report does not allow us to discuss. In general, it may be said that the careful and systematic methods which characterize this technique are bound to affect almost every phase of employment work and to produce results which will be considerably in advance of the methods now prevalent.

SECTION III—JOB ANALYSIS

Preface

Because of the fact that the Job Analysis Committee was not organized until late in the season, a comprehensive treatment of the subject assigned for study was out of the question.

The Committee was, therefore, compelled to limit itself to a statement of the general principles and advantages of job analysis and to a description of the forms used by some of the organizations which have had experience in making such analyses.

If the report will serve as a basis for discussion at the Chicago Convention and furnish material for subsequent, more extended studies, the members of the Committee will feel amply repaid for the work involved in the preparation of the report.

Acknowledgment should be made of specially valuable assistance rendered by Mr. J. D. Hackett and of his cooperation in placing at the disposal of the committee the two Man-Job Specification charts printed on pages 48 and 49.

H. A. HOPF, *Chairman.*

JOB ANALYSIS AND SPECIFICATIONS

Increased production on the part of each individual is one of the most pressing needs in industry today. Upon this fact depends the economic future of the country. Unless we can produce goods at a less cost per unit than our trade rivals we are bound to recede commercially to the detriment of both employer and employe. One method of securing greater production is a better understanding of the principal elements which bring about such desirable results, the adjustment of the man to the job and the job to the man. Coordination between these two factors is bound to cause a great increase in output without the doubtful expedient of "driving" which is now happily giving way to a recognition of the mutuality of interests. As a rule men have to be driven only when placed at work for which they have no special aptitude and for which they are neither physically nor temperamentally fitted. The inevitable result is hard feeling, loss of time on the part of the foreman, loss of output on the part of the worker and loss of money on the part of the employer. In order to avoid such contingencies it is necessary to bring the work and the worker into a more productive and harmonious relation with each other. This is the main purpose of job-analysis.

Nomenclature.

As in all new subjects, in which a large number of people are independently working, no fixed nomenclature has as yet been established. Terms such as "task description" "task definition," "job description," "job qualifications and descriptions" and "job analysis" are frequently used. Practically all of them describe the various elements entering into the work, the physical qualifications of the worker and working conditions. The term "job analysis," while possibly a proper title for such a description, might be used more advantageously in reference to the actual analytical process. The description resulting from this analysis may properly be termed a "specification" but since it includes facts concerning the work, the worker and the working conditions, to call it a job specification is hardly inclusive enough. The term "Man-Job Specification" is therefore used not because it fills the exact requirements but because it is somewhat more accurate and less cumbersome than the other terms suggested. The general adoption of some definite nomenclature is now becoming highly desirable.

Present Status.

One of the results of centralization of employment is that organized attention can now be given to subjects impossible under the older methods. Improved efforts in selecting the worker have forced into prominence the necessity of knowing more about the work. This fact has greatly stimulated interest in the subject of job analysis, but, even now, few concerns have gone much beyond the experimental stage and their efforts are not as yet in presentable form. We are, however, fast reaching a point where, as in the case of the Industrial Management Council of the Rochester Chamber of Commerce, job analyses and specifications have been discussed and much constructive work has resulted from such conferences. It is only by means of a frank exchange of experiences that progress may be assured.

Definitions.

In order to determine the exact nature of the work it is necessary to examine its various constituents, but to be effective this must be done with special reference to the desirable and available human material. Job Analysis, therefore, may be described as the analysis of the component parts of each particular kind of work in relation to the worker responsible for its performance. A "Man-Job Specification" is the result of job analysis. It is made up of two parts, one describing the qualifications of the individual who may be expected to do the work, the other the essential features of the job. In accordance with this definition it is necessary to include certain subsidiary facts regarding wages, hours of work and other items so as to furnish complete knowledge of the subject. It involves also an estimation of the physical and mental qualifications of the prospective worker.

MAN-JOB SPECIFICATION

Name of job.................................Number of employees on operation......

Plant...............................Department..................Date.......................

THE WORKER				THE WORK			
EDUCATION		WEIGHT		CLASSIFICATION		MOTION	
Grade school		Heavy		Executive		Slow	
High school		Medium		Administrative		Medium	
Technical		Light		Operative		Rapid	
College				Creative			
		STRENGTH				CHARACTER	
EXPERIENCE		Strong		PLACE		Repetitive	
None		Medium		Inside		Non-repetitive	
Some		Light		Outside		Automatic	
Considerable						Supervised	
		SPEED		MATERIAL			
CHARACTER		Quick		Metal		HAZARDS	
Ambitious		Medium		Wood		Accident	
Careful		Slow		Fabric		Fire	
Energetic						Dust	
Intelligent		HANDS		NATURE		Fumes	
Loyal		Hard		Heavy		Poisons	
Neat		Soft		Medium		Noise	
Reliable		Right		Light		Vibration	
Tactful		Left					
Temperate		Both		Hot		WAGES	
Thorough				Wet		At start	
Willing		FINGERS				Next advance	
		Long		Dirty		Limit for job	
NATIONALITY		Short		Greasy			
American						Hourly	
Foreign		POSTURE		Rough		Weekly	
Naturalized		Standing		Close		Monthly	
		Sitting				Piecework	
PHYSICAL		Stooping		Floor		Premium	
Age		Walking		Bench			
Sex		Reaching		Floor machine		HOURS OF WORK	
Color				Bench machine		Length, day	
Sight		DISABLEMENT al'd				Length, week	
Hearing		Fingers, right		CONTINUITY		Start at	
		Fingers, left		Part time		End at	
HEIGHT		Arm, right		Full time		Meals, min	
Tall		Arm, left		Overtime		Rest periods	
Medium		Leg, left		Intermittent		Stoppages	
Short		Leg, right		Permanent		Night work	

Duties..

Machine..

Acceptable if previously experienced in...

Dept. Foreman..........................

Dept. Manager........................

....

Employment Dept. Manager H.

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J. D. Hackett

OFFICE WORK AND WORKER SPECIFICATION

Name of occupation .... Date ....

Company .... Department ....

The Worker				The Work			
Education		**Physical**		**Classification**		**Motion**	
Grade school		Age		Executive		Slow	
High school		Sex		Administrative		Medium	
Technical		Sight		Operative		Fast	
College		Hearing		Creative			
						Character	
Experience		**Height**		**Place**		Repetitive	
None		Tall		Inside		Non-repetitive	
Some		Medium		Outside		Automatic	
Considerable		Short				Supervised	
				Nature			
Character		**Weight**		Heavy		**Wages**	
Ambitious		Heavy		Medium		At start	
Careful		Medium		Light		Next advance	
Energetic		Light				Limit	
Intelligent				**Posture**			
Loyal		**Speed**		Standing		Hourly	
Neat		Quick		Sitting		Weekly	
Reliable		Medium		Stooping		Monthly	
Tactful		Slow		Walking		Bonus	
Temperate				Reaching			
Thorough		**Hands**				**Hours of Work**	
Willing		Right		**Continuity**		Length, day	
		Left		Part time		Length, week	
Nationality		Both		Full time		Start at	
American				Overtime		End at	
Foreign		**Fingers**		Intermittent			
Naturalised		Long		Permanent		Meals, min	
		Short				Rest periods	

Duties ....

....

Name of machine to be used ....

Acceptable if previously experienced in ....

Office manager ....

....
Employment Department Manager

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An Industrial Man-Job Specification Chart.

For the purpose of recording, in convenient form, the various factors required, a "Man-Job Specification" chart should be used. This contains a summary of the chief points to be considered in making an analysis. It is used merely as a basis for compiling a special chart to suit the needs of an individual plant. One applicable to all requirements would be too cumbersome. It is best to begin by determining only the most essential facts and care must be taken not to elaborate too much. Experience shows that unless the specification is very simple it will not be used to the fullest extent or to the best advantage. A chart similar to the one reproduced on page 54 may be adapted with comparatively slight modification to the needs of any individual establishment.

The specification form for the office staff does not differ very materially from that used in the plant. More attention is paid to the mental attributes and less to the physical makeup of the workers. Provision is made at the bottom of the form for describing the duties at some length and for mentioning the name of the machine to be used, i.e., the typewriter, adding or duplicating machine, etc.

Description of Occupations.

The Bureau of Labor Statistics has prepared for the United States Employment Service a description of occupations of office employes which may be used to advantage in conjunction with the above form. These descriptions are based on investigations "extending over practically the entire United States." Their object is to furnish definitions of the various office occupations so that employer and employe may both know the nature of the work offered and accepted. Under each occupation are described the kindred occupations, the various duties involved, the necessary qualifications and the required amount of schooling.

As examples of these occupational descriptions the following may be noted:

BOOKKEEPER

Kindred Occupation: Ledger clerk.

Description: The bookkeeper keeps a systematic record of the transactions of the business in a set of books or on cards and takes trial balances.

Qualifications: Good penmanship; good memory; a thorough knowledge of single and double entry bookkeeping.

Schooling: Common school; should have had a bookkeeping course in a school of recognized standing.

CLERK, GENERAL

Description: The general clerk performs under supervision prescribed clerical work of minor importance.

Qualifications: Familiarity with office procedure. Good penmanship, accuracy, and quickness.

Schooling: Common school.

FILE CLERK

Description: The file clerk files away for safe-keeping letters and other papers, and finds them promptly when they are needed.

Qualifications: Should have had some general office experience and be familiar with the various filing systems. Should be a keen observer, a quick thinker, possess a good memory and a mind for detail. Should be thoroughly conscientious, accurate, and alert.

Schooling: Common school; standard course in filing, or equivalent.

MAIL CLERK

Description: The mail clerk opens, stamps with a date or time stamp, and distributes the incoming mail. He also sorts and incloses the outgoing mail and sees that enough postage is attached, and that letters are mailed.

Qualifications: Carefulness; accuracy; honesty; knowledge of different classes and rates of mail matter and office routine.

Schooling: Common school.

MESSENGER

Description: The messenger performs minor routine clerical work, receives and delivers messages, documents, and packages, meets and directs visitors, attends to the telephone.

Qualifications: Responsibility; tact; trustworthiness.

Schooling: Common school.

STENOGRAPHER

Kindred Occupation: Typist.

Description: The stenographer records dictation in shorthand, which is later transcribed on the typewriter.

Qualifications: Intelligence; mental alertness; good memory; carefulness; neatness. Should have graduated in stenography and typewriting from a school of good standing; special courses in English grammar, spelling, and punctuation.

Schooling: Common school, preferably high school.

TYPIST

Description: The typist does general typewriting, incidental clerical work, and filing.

Qualifications: Special training in typewriting; accuracy; neatness; good memory.

Schooling: Common school.

Reference should also be made to publications of other Governmental departments which will be found to be helpful when preparing Man-job specifications. Typical of these are the "Trade specifications" and "Index of Professions and Trades in the Army" and "Aids to Employment Managers and Interviewers on Shipyard Occupations." These publications cover a large number of trades commonly found in all industrial plants.

Some Typical Job-Specifications.

In connection with the preparation of this report, the committee has endeavored to secure copies of job-analysis charts in use in large industrial and commercial concerns. The response from many of these organizations showed that while work on job analysis has been attempted by some, very few have accomplished results. Among those who are making definite progress in the study of the subject are the institutions whose charts are reproduced below:

1. As a result of several years' development the Denison Manufacturing Company has designed a "Job Specifications" form which deals in some detail with minimum qualifications, nature and conditions of work, duties, rates and promotion. On the back of the form are elaborate instructions for compiling it.

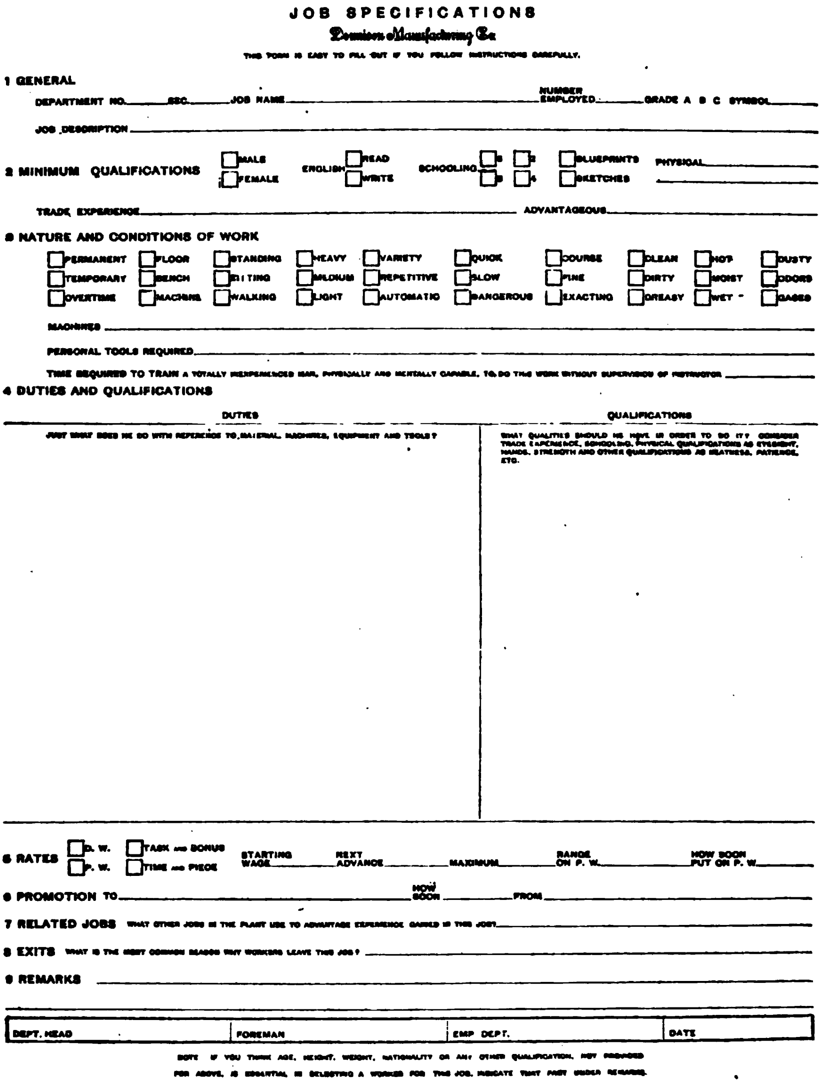
2. The form (see page 56) developed by the American Rolling Mill Company is divided into duties, conditions of work, nature of work and qualifications. Its size is 8½" x 11".

3. On the chart reproduced on page 58 it will be noted that minimum and preferred type, age, physical characteristics, experience and education are called for. Its size is the same as the previous form.

4. A neat 4" x 6" card has on one side the job analysis, together with the physical and educational requirements, and on the other the nature and description of the work.

5. The form employed by the Curtis Publishing Company (see page 60) is used for office, shop and outside workers. It includes in addition to working conditions, personal qualifications, experience, wages and hours, references to line of advancement and commonest reason of exit.

It will be seen that while the above examples differ in title, size and arrangement considerably, the subject matter is approximately the same.



JOB SPECIFICATIONS

Dominion Manufacturing Co.

THIS FORM IS EASY TO FILL OUT IF YOU FOLLOW INSTRUCTIONS CAREFULLY.

1 GENERAL

DEPARTMENT NO.______ SEC.______ JOB NAME____________________ NUMBER EMPLOYED______ GRADE A B C SYMBOL______

JOB DESCRIPTION____

2 MINIMUM QUALIFICATIONS ☐ MALE ☐ FEMALE ENGLISH ☐ READ ☐ WRITE SCHOOLING ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ BLUEPRINTS ☐ SKETCHES PHYSICAL__________

TRADE EXPERIENCE____________________ ADVANTAGEOUS______________

3 NATURE AND CONDITIONS OF WORK

☐ PERMANENT ☐ FLOOR ☐ STANDING ☐ HEAVY ☐ VARIETY ☐ QUICK ☐ COURSE ☐ CLEAN ☐ HOT ☐ DUSTY
☐ TEMPORARY ☐ BENCH ☐ SITTING ☐ MEDIUM ☐ REPETITIVE ☐ SLOW ☐ FINE ☐ DIRTY ☐ MOIST ☐ ODORS
☐ OVERTIME ☐ MACHINE ☐ WALKING ☐ LIGHT ☐ AUTOMATIC ☐ DANGEROUS ☐ EXACTING ☐ GREASY ☐ WET ☐ GASES

MACHINES____

PERSONAL TOOLS REQUIRED______________________________

TIME REQUIRED TO TRAIN A TOTALLY INEXPERIENCED MAN, PHYSICALLY AND MENTALLY CAPABLE, TO DO THE WORK WITHOUT SUPERVISION OF INSTRUCTOR________

4 DUTIES AND QUALIFICATIONS

DUTIES	QUALIFICATIONS
JUST WHAT DOES HE DO WITH REFERENCE TO MATERIAL, MACHINES, EQUIPMENT AND TOOLS?	WHAT QUALITIES SHOULD HE HAVE IN ORDER TO DO IT? CONSIDER TRADE EXPERIENCE, SCHOOLING, PHYSICAL QUALIFICATIONS AS EYESIGHT, HANDS, STRENGTH AND OTHER QUALIFICATIONS AS NEATNESS, PATIENCE, ETC.

5 RATES ☐ D. W. ☐ P. W. ☐ TASK AND BONUS ☐ TIME AND PIECE STARTING WAGE______ NEXT ADVANCE______ MAXIMUM______ RANGE ON P. W.______ HOW SOON PUT ON P. W.______

6 PROMOTION TO____________________ HOW SOON______ FROM____________

7 RELATED JOBS WHAT OTHER JOBS IN THE PLANT USE TO ADVANTAGE EXPERIENCE GAINED IN THIS JOB?____________

8 EXITS WHAT IS THE MOST COMMON REASON WHY WORKERS LEAVE THIS JOB?____________

9 REMARKS____

DEPT. HEAD	FOREMAN	EMP. DEPT.	DATE

NOTE IF YOU THINK AGE, HEIGHT, WEIGHT, NATIONALITY OR ANY OTHER QUALIFICATION, NOT PROVIDED FOR ABOVE, IS ESSENTIAL IN SELECTING A WORKER FOR THIS JOB, INDICATE THAT FACT UNDER REMARKS.

INSTRUCTIONS

FOR FILLING OUT BLANK FORM FOR

JOB SPECIFICATIONS

GENERAL

1 It is necessary that the following instructions be carefully observed.

2 Write neatly and legibly.

3 Place a cross in the proper square when the item you are considering is helpful in selecting or training the worker for that job. Leave the square blank when it is unimportant.

4 Note carefully the information desired under each heading before writing. This will eliminate error and erasures.

WHAT IS WANTED

1 GENERAL

Job Description should be brief, merely indicating the nature of the work. Do not put anything opposite *Grade A B C* or *Symbol*.

2 MINIMUM QUALIFICATIONS.

Be careful to distinguish between the qualifications of the worker who is on the job and the minimum requirements for another worker to do the job. For example, *English* ☐ *Read* ☒ *Write* means that a worker *MUST* be able to write English before he can even be considered for that job. After *Schooling*, 6 and 8 refer to years of grade school, 2 and 4 to years of High School. *Trade experience* should be specified only when that experience is absolutely essential. After *advantageous* indicate any related work which may be helpful in this job.

3 NATURE AND CONDITIONS OF WORK

Permanent means the *same* job month after month. In the square before *temporary* write the number of months.

If the work is at a machine and on a bench put a cross in the square before *machine* and another cross in the square before *bench*. Make as many crosses as you think will help describe the work.

Heavy, *medium* and *light* refer to material or equipment hard to carry or move.

Variety means different kinds of work, involving set-up and all adjustments necessary to completion of work; *repetitive* refers to straight production work involving only a small amount of adjustment and attention; *automatic*, doing identically same thing in a purely mechanical way.

Fine work demands care and *neatness*; *exacting* means continuous application to delicate or close up work.

Dust includes sawdust, dust from polishing machines, dust from ground floors, etc.
Fumes refer to objectionable smells, coming from ammonia, strong paints, glue, smoke, etc.
Acids should be checked only when the worker handles acids as a part of his regular work.

After *machines* write the different *KINDS* of machines used on the job, as lathe, printing machine, slitter, etc. If several machines operate together as one machine give the names of the separate machines. If the makers name, or the machine number is important, or if some special appliance on the machine makes it different from other machines of the same name, indicate that fact.

4 DUTIES AND QUALIFICATIONS

Duties refer to the operations on the job and other things the worker has to do. Operations include make ready, actual operations on the job, and finishing up after the job. Other things he has to do includes watching certain important things in the work, inspecting, or making adjustments during operations.

Qualifications refer to such things as knowledge of material or machines, physical strength, quickness or delicateness of hands, ability to distinguish colors, other jobs that help the worker to do this job, etc. Give the qualifications of a first-class worker doing this job.

5 RATES

Starting wage is the wage paid to a beginner with no experience that will help him on the job.

6 PROMOTION

To what other jobs are workers promoted from this job? From what jobs are workers promoted to this job? Indicate preference for new or old workers.

8 EXITS

Note if the job is one of the best in the department and much sought after.

9 REMARKS

Include any special information which you think may be of interest, or helpful in selecting, training, or promoting work

EMPLOYMENT DEPARTMENT

JOB DESCRIPTION AND QUALIFICATIONS

DATE____________________

Department____________________ Shop__________ Job____________________ Symbol__________

DUTIES

____

____

____

CONDITIONS

Hours Per turn__________ Day Night Rate Per hour ______________ Maximum Job Rate Starting Production Bonus key______________

Turns Per week__________ Day Night Time normally required to learn job______________________

NATURE OF WORK

Heavy__________ Standing__________ Quick______ Close__________ Dirty________ Outside________

Medium________ Sitting__________ Slow______ Wet__________ Routine________ Inside________

Light__________ Walking__________ Rough______ Clean__________ Variety Of jobs______________

QUALIFICATIONS

Schooling desired Common ______________ High School ______________

College ______________ Necessary to read and write English?__________ Read Blue Prints__________

Training and experience desired______________________________

____

Age Preferred____________ Weight____________ Height____________ Physical rating Must be______________

Nationality desired____________________ Promotion from Allied jobs (symbol)____________________

When possible promote to job (symbol)______________________________

Tools required______________________________

Remarks______________________________

____

Dep't. Foreman ______________________ Employment Department ______________________

JOB SPECIFICATION

Revised to ....
Depts. ....Job Name ....
Approx. number employed in shop: ....
Preferred: M....Wo....White...Col.. Will do: M...Wo... Wh....Col....
Nature of work (detailed): ....
....
....
Working conditions ....
....
Unpleasant features: ....
Tools used: ....
Tools should own (experienced man): ....
Age preferred: ....Required Limits ....
General Physical Build ....
....
Physical Characteristics to be avoided ....
Experience preferred in learners ....
Other departments to draw from ....
Experience to be avoided ....
Education: Desired ....Necessary ....
PAY: Learner (Adult) Base Hr. ....Total, Week ....
Av. Good (95% E. E.) Base Hr...Total, Week..Time..
Additional remarks about pay ....
....
What promotion? ....
What physical handicap not a bar? ....
General Comment: ....
....
Where and how best recruited: ....

JOB ANALYSIS

Card No.............. Sec.................Dept...

Occupation No...................Class..................... Name ....

Type of Machine Tool
Employee is Required to Operate...

Requirements: Physical, Educational, Experience, Etc.

Man.......... | Woman.......... | White.......... | Colored	Ability to Speak English....................	Ability to Use Templates ....
Tall .... | Short.............. | Medium	Ability to Read English......................	Ability to Use Micrometer ....
Minimum Weight............. | Age Limits	Ability to Read Scale........................	Ability to Use Prints ....
Strength and endurance required is more than average	Ability to Use Jigs..............................	Ability to Set up own work ....
Education Required	Ability to Use Gauges.......................	

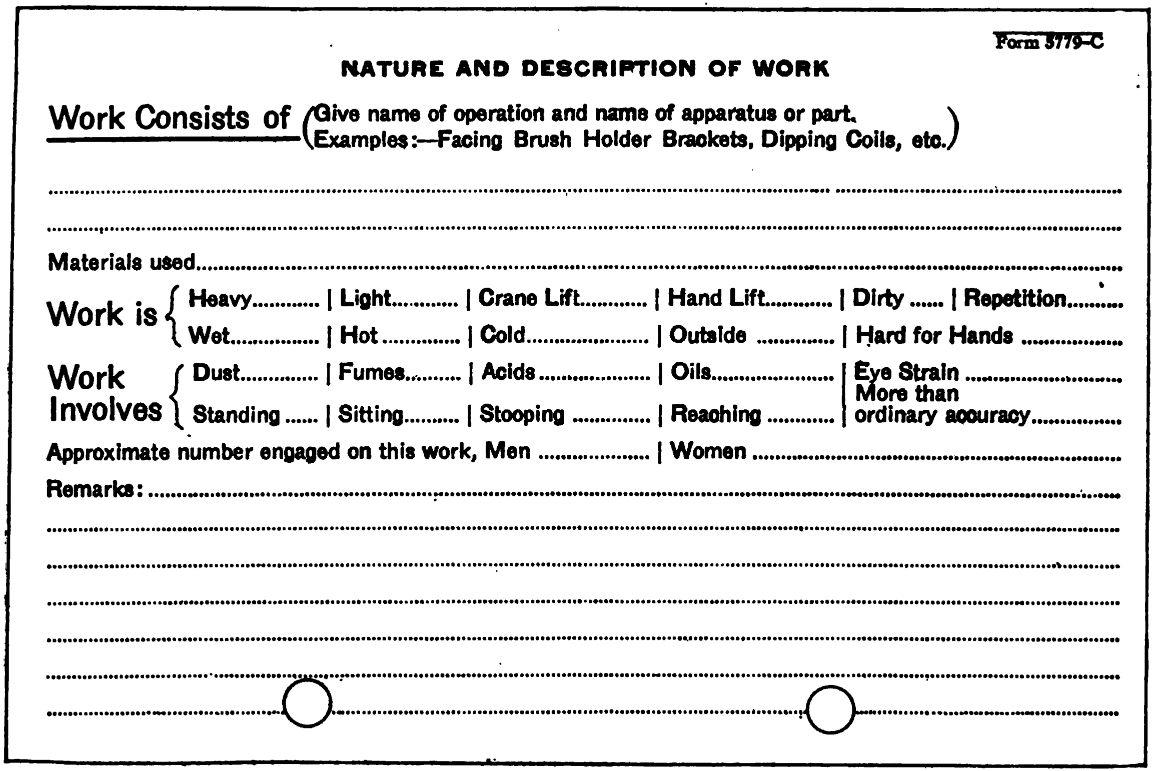
Type of operative } Quick
required for work } Motioned.......... | Deliberate.......... | Patient.......... | Observant.......... | Good Memory..........

Experience, Time—Previous............................ | To Learn............................ | How Taught..

Wage System:—Day Work............ | Premium................ | Piece Work..................... | Group............ | Task............

Tools operative should own...

....



Form 5779-C

NATURE AND DESCRIPTION OF WORK

Work Consists of (Give name of operation and name of apparatus or part.
Examples:—Facing Brush Holder Brackets, Dipping Coils, etc.)

....

....

Materials used..

Work is { Heavy............ | Light............ | Crane Lift............ | Hand Lift............ | Dirty ...... | Repetition..........
Wet............... | Hot .... | Cold...................... | Outside .... | Hard for Hands ....

Work Involves { Dust............. | Fumes......... | Acids..................... | Oils...................... | Eye Strain ....
Standing ...... | Sitting.......... | Stooping .... | Reaching .... | More than ordinary accuracy................

Approximate number engaged on this work, Men .... | Women ....

Remarks: ....

....

....

....

....

....

....

THE CURTIS PUBLISHING COMPANY

Dept.................................... Job Name....................................

Div..................................... Job Symbol..................................

WORKING CONDITIONS:

Permanent	Night	Clerical	Standing	Heavy	Variety	Quick
Temporary.....	Day	Mechanical	Sitting	Medium	Routine	Slow
Overtime	Past Time	Labor	Stooping	Light	Exacting	Dangerous

Clean Office..

Dirty Shop..

Hot Outside..

PERSONAL QUALIFICATIONS: (Qualify only those which are essentials).

Age............... Appearance................................. Grade School.............years

Height............. Nationality................................. High School..............years

Weight............. Eyesight................................... College..................years

---

EXPERIENCE:

Special knowledge and training
either with methods or machine...

Can inexperienced man If so, how long
be trained?.................................... will it take?..................................

WAGE AND HOURS:

Time Rate	Starting Wage..............................		In...........		In...........
Piece Rate	Next Advance	Hours		Sat	
Prod. Bonus	Time or Merit..............................		Out...........		Out...........

GENERAL:

Next Opportunity...

Related jobs...

What is most common reason for exit?...

What are the duties on this job?	Necessary qualifications

Factors to be Considered

In making "Man-Job Specifications" the principal factors to be considered may be grouped as follows:

I. *Worker.*
  - A. General Qualifications.
    1. Education
    2. Experience
    3. Character
    4. Nationality
  - B. Physical Qualifications.
    1. Age, etc.
    2. Height
    3. Weight
    4. Strength
    5. Speed
    6. Hands
    7. Fingers
    8. Posture.
    9. Disablement

II. *Work*
  - A. General Factors.
    1. Classification
    2. Place
    3. Material
  - B. Specific Conditions.
    1. Nature
    2. Continuity
    3. Motion
    4. Hazard

III. *Working Conditions*
  - A. Wages
    1. Amount
    2. Method of Payment
  - B. Hours of Work
    1. Number
    2. Starting and stopping time

Method of Compilation

In compiling a specification it is not necessary to indicate every possible contingency, since some may be inferred. For instance, if the nature of the work is wet the fact may be indicated; but if the usual condition of dryness exists, the fact need not be recorded. Generally speaking, it is necessary to indicate only minimum requirements. Thus, if a foreign workman can capably fill a certain position, the fact should not necessarily exclude a native-born workman if he can be secured.

As far as possible the charts are designed so that all facts may be indicated by a pencil mark in the blank space opposite each sub-heading. When "Grade School," for instance, is the minimum requirement, a pencil mark registers the fact.

Failing the services of a psychologist in determining the existence of mental qualities desirable for specific kinds of work and an accurate means of estimating them, it is necessary to rely on an estimate in somewhat general terms.

The existence of ambition is desirable in an office boy and it may be judged by the advantage he has taken of educational facilities.

Carefulness may be judged by freedom from accidents in previous occupations; energy, by the mode of life, and so forth. The fitness of a workman for a specific job may be judged by simple intelligence tests such as those used in the Army.

Loyalty, reliability, tact, temperance and other qualities are more or less necessary in all occupations; but they are difficult to estimate initially, and diversity of opinion will always exist as to the most essential qualities for each type of work.

In certain cases explicit information is needed. For instance, the age requirements of messenger boys may be indicated by the insertion of the actual figures, i.e., 16-18 years. When a specific nationality is desired it may be written out in full. The sex may be indicated by "M" or "F," the color by "W" or "C," to indicate white or colored. A mark opposite the word "Sight" indicates that normal sight is essential.

Since the employment of wounded men has become a part of our reconstruction program, provision should be made for ascertaining allowable disablements. A mark opposite any subheading under the word "Disablement" indicates that it will not interfere with the performance of that particular kind of work. By the use of this tabulation all available jobs for wounded soldiers may be easily ascertained.

In analyzing the work, the first point to determine is its general classification; then the environment should be noted.

General conditions, such as the nature and intensity of the work, its continuity, character and hazards, may all be indicated in the manner above mentioned.

Indication of accident and fire hazards presupposes a knowledge of what accident and fire risks exist in the various occupations. The possibility of fire, the presence of poisons and other occupational dangers, can only be recorded after consultation with those who have made a special study of these features.

In recording wages the actual figures may be used, but a difficulty may arise where the rate changes often. If employes start with a day rate and go to piece work after a probationary period, the fact is indicated by a "P" placed in the blank after "Piecework." The method of making the record varies in many particulars and that which experience shows to be the most convenient should be adopted.

At the bottom of the chart it is advantageous to record the duties of each position according to a definite plan beginning with what is to be done and how it is to be done. In the succeeding paragraph the name of the machine may be entered and finally desirable experience in other lines.

Purpose of Job Analysis

A study of job analysis and its application shows many unsuspected uses for the employer, the employment department and the worker. In order that a comprehensive view may be obtained of the subject, the following generally recognized uses should be mentioned:

For the Employment Department.

1. Facilitates better selection by showing the most essential factors in the applicant and the work.
2. Establishes a permanent record of the different types of work.
3. Facilitates interviewing by making all data available.
4. Indicates occupational hazards and the type of man likely to suffer the least harm.

5. Aids in the transfer of men to types of work for which they are best fitted.
6. Facilitates the establishment of a line of promotion by the grading of jobs.
7. Indicates suitable work for the physically handicapped.
8. Enables the equitable adjustment of wages to the difficulty of the work, fixes periods for increase and shows maximum salary which may be expected.
9. Indicates necessity of training in certain jobs and the best method which may be used.
10. Defines each essentially different job and thereby facilitates the tabulation and reduction of turnover.

For the Foreman.

1. Shows the exact character of the job and the qualifications necessary to fill it satisfactorily.
2. Standardizes relations with the employment department.
3. Promotes the study of each job and thereby facilitates the possibility of improvement.
4. Determines output by defining the factors upon which output depends.
5. Enables the coordination of one type of work with another.

For the Worker.

1. Enables applicants to know the conditions under which they are hired.
2. Defines the limits of work and duties by means of a standard record.
3. Indicates the normal lines of promotion.

The advantages of job analysis cannot be secured unless a determined effort is made to use the man-job specifications established as the basis for selection. One of the chief advantages of job analysis is that it provides a definite and orderly method for interviewing. Therefore, interviewers should not be permitted to rely on their memories when hiring.

It is worthy of note that a study of the cause of leaving gives hints as to desirable and undesirable features which should be observed in the development of specifications. The existence of occupational hazards when collated for the man-job specification, often draws attention to these conditions and thus causes their modification or removal.

One of the greatest practical advantages resulting from job analysis is that turnover may be accurately determined according to each separate job. There is much variation in the percentage of turnover in different occupations which can only be prevented when the fact is known through the above means.

Classifications of Jobs

Before proceeding to the compilation of job analyses it is necessary to classify and compile a list of all the essentially different kinds of work in the plant and office, to define what constitutes skilled, semi-skilled and unskilled labor and to determine those jobs which vary only in the degree of skill required. In the latter case, a separate job analysis need not be compiled. The degrees of skill may be indicated by marks such as A, B or C. Where the character of work varies only in detail it is hardly necessary to make a separate record of each job.

On the basis of this classification the jobs may be identified by a system of numbering. If there are, for instance, ten departments, the first two numbers indicate the department, the second group indicates the grade or class of labor and the third the particular occupation. Thus, a group of figures such as 07.03.65 may represent the yardman, unskilled labor class, in the Shipping Department. This system will be helpful in coding information by means of perforated cards.

Having completed the classification of occupations, those jobs which show the highest turnover should be analyzed first, not only because they will be used most frequently by the interviewer but also because they may lead to a reduction of turnover. In many plants it is found that a dozen job analyses will cover fifty per cent. of the applicants who appear at the employment office. The turnover in many occupations is found to be very small and the interviewer seldom needs to refer to them. It is well worth while to arrange all occupations alphabetically and to place opposite each its department, the numerical strength, the class of labor, the percentage of turnover and the amount of pay in each case. These particulars constitute the occupation list which should be part of the records.

Method of Compilation

Having determined on the "Man-job Specification" chart as shown on page 32 the compilation of each individual analysis may be begun. This should be initiated by the employment manager who should call the foremen together and explain the purpose of the chart. The employment manager should then seek the cooperation of the foreman in the development of the specifications.

In compiling the analyses with the aid of the foremen it is advisable to do so by observation of the methods of the best workers and to record the foremen's ideas while actually in the presence of the operation. A good foreman's opinions of the work and of the necessary qualifications of the worker are often concise and accurate though scarcely ever a matter of record. An efficient foreman will tell offhand the size, weight, nationality and age of the workman he desires. A foreman who is not "on the job" will hardly have any opinions on the subject. This is only one of the many incidental advantages to be found. Another is that all foremen are stimulated to study the job and the worker with increased care.

A useful method of perfecting job analyses is to find out the opinions of different foremen controlling the same operation. Care must be taken not to allow them to compare notes or the value of their conclusions will be lost.

The cooperation of the worker, also, should be secured. If the matter is properly explained, his interest will be excited and many valuable hints may result. His opinion as to what constitutes the essential features of a job often discloses points which might otherwise be overlooked.

Types of Job Specifications

There are two types of job specifications:

1. The descriptive type, in which there is an essay on the various factors involved.
2. The categorical type, which gives definite points arranged in a uniform sequence.

In the descriptive type there is a difficulty in rapidly dissociating the various essential factors and thus gaining either the best or the most rapid results. The categorical type, of which the "Man-job Specification" is an example, is a simpler and more definite method. The various factors are presented according to a logical and easily followed sequence which facilitates compilation and study.

Uses of Job Specifications

Now that the Public Employment Service is an active factor, the job specifications may be used in applying for help. It is a somewhat novel idea to suggest that the Employment Service should choose men from specifications supplied by local plants, but there is no logical reason why the plan should not be put into practice.

By means of job analyses the adjustment of wages by evidence and not by opinion becomes a possibility, and a complete job analysis is often followed by a revision of the wage scale.

Many plants have medical departments and an efficient staff for ascertaining physical disabilities and maintaining the health of workers. In the matter of ascertaining occupational risks equal progress has not been made, and few plant physcians are ready to state exactly the prevalent occupational poisons. A job analysis will show the principal risks, and it should then be the responsibility of the physician to determine the physical qualifications necessary to withstand these hazards.

Some Other Advantages of Job Analysis

Where job analyses are compiled with care and energetically applied there is a conscious appreciation of the various elements which enter into each particular job, and this brings about a decided improvement all along the line. Job analysis is a distinct cause of progress to both production and personnel. Job analysis is the charter upon which an applicant is hired and therefore it should be the standard to determine promotion. It tells the employe what is expected of him and the foreman what to expect. A well established and authoritatively ascertained record prevents disputes either as to wages or work.

Besides leading to economies in operation, means may be found through job analysis of simplifying some difficult or cumbersome operation.

Though the improvement of production methods through job analysis is not a direct object, substantial gains are often made in this way. As an example, the following quotation may be made:

"As a result of our study of this job an improvement was made in the machine itself . . . While a simple thing, it was of immense importance in getting out the product. We have found it possible by this means to make skilled operators in about one-sixth of the time normally required."

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SECTION IV—PROPER RELATIONSHIPS

Preface

Your committee on Relations Between the Employment Division and the other Departments of an Industrial Organization have met and agreed upon the enclosed report.

Mr. W. D. Stearns, of the Westinghouse Electric & Manufacturing Company, very willingly lent his assistance in making up the report and the committee feel that it was due largely to his efforts that the report has been made up in a manner satisfactory to the committee.

Yours respectfully,
JOHN C. BOWER,
Chairman.

SECTION IV

RELATIONS BETWEEN THE EMPLOYMENT DIVISION AND THE OTHER DEPARTMENTS OF AN INDUSTRIAL INSTITUTION

Your committee has given this subject careful thought and discussion, and reports as follows:

The relation between the employment division and the other departments of an industrial institution depends upon the size and nature of the organization. The larger industries will require more sub-division and more specialization by each department.

Relation of the Employment Division to the Higher Executives

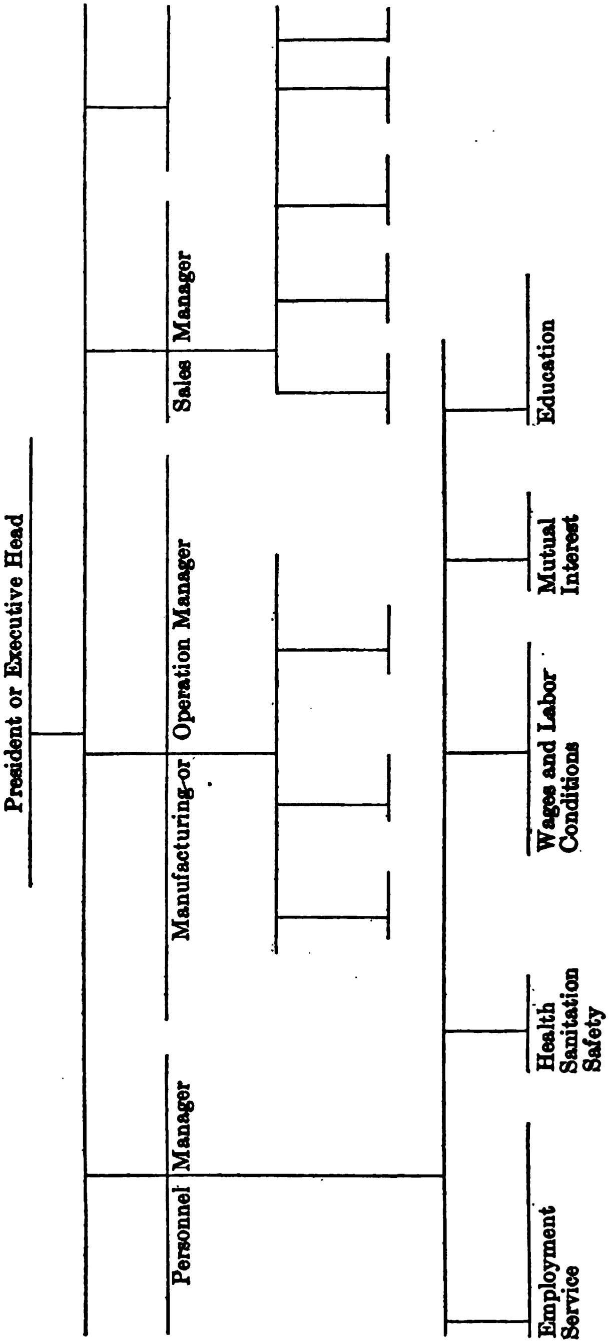
A satisfactory relationship for the larger concerns is suggested by the chart on page 72:

The point to be emphasized is that the employment division should come immediately under the personnel manager, who reports directly to the executive head of the organization. The manager of personnel should be as important a man in the organization as the manager of manufacturing or manager of sales. If the organization is large enough to have a vice-president in charge of manufacturing and a vice-president in charge of sales, then there should be a vice-president in charge of personnel. The manager of the employment department should report directly to this vice-president.

Functions of the Employment Department

Broadly, the employment department has but one function, *service*. It is to be used by the other departments to secure and keep the right kind of men for the jobs which are to be done.

The department should know the source of labor supply and should secure the right kind of applicants. Possible applicants may often be obtained from the one in charge and from the employes, or by correspondence, labor bureaus, educational institutions, published articles and advertising. A reputation for good treatment of employes makes any of these methods much more effective.


President or Executive Head
Personnel Manager
Manufacturing or Operation Manager
Sales Manager
Employment Service
Health
Sanitation
Safety
Wages and Labor Conditions
Mutual Interest
Education

When the applicants are once obtained, the next work of the employment department is to select the man best suited for the job. The man's physical and mental fitness should be considered. This is done by physical examination, personal interview and from intelligence and performance tests and past records.

Individual complaints and misunderstandings of the employes should be considered by this department.

Whenever an employe is to be transferred to another division or is to leave the service altogether, this should be done through the employment department.

All personal records of employes and all statistics as to the working force should be kept by this department.

We may then summarize the functions of the employment department as follows:

1. To get applicants.
2. To select the man best fitted for the job.
3. To transfer employes.
4. To adjust individual complaints.
5. To dismiss employes.
6. To keep all employe records and statistics.

Coordination of Employment Department Functions with Those of Other Departments

1. *Getting Applicants.*

The individual supervisors do not have the means of knowing the labor market, and do not have time to obtain applicants. This work can be done much more efficiently and consistently by a centralized employment department. The one in charge is generally only too glad to be relieved of the burden of obtaining new men. However, if any one in the organization knows of an available worker, the employment department is glad to have him recommend such a one for employment.

2. *Selection.*

The selection should be made, having in mind not only the characteristics of the man and his suitability for the job, but also the characteristics of the man for whom he is to work. The selection having been made, the man should be sent to the one in charge for a final interview, so that each may know the other and the final agreement be made between these two. In all cases the employment department is only serving the one in charge by recommending an applicant whom it thinks he will want. If the selection is unsatisfactory then another man should be chosen.

3. *Transfer.*

Transferring an employe may be desirable for these reasons:

(a) There may be no available work on that job, in that particular department, yet there may be need of men on the same job in another department.

(b) Perhaps the employe should be promoted, but there is no opportunity for promotion in the department in which he now is.

(c) There may be personal characteristics of the employe, or of one in charge which make a transfer desirable. In all of these cases a centralized employment department can serve as a clearing house.

4. *Individual Complaints.*

It often happens that so-called grievances and complaints result largely from misunderstandings which disappear when a third party makes an investigation and gets the facts from both sides. The employment department serves as the mediator in such cases. This mediation is only for individual complaints. All matters having to do with general complaints or policies will be considered by the department of wages and labor conditions.

5. *Dismissal of Employes.*

All employes should be dismissed through the same source as that through which they are hired. This allows a disinterested party to interview "quits" which often enables these men to be used to advantage in other departments. It also facilitates keeping correct records.

6. *Records and Statistics.*

Records and statistics kept by the employment department are of considerable use to the supervisors and management in studying labor conditions. Records and statistics of employes are the bookkeeping of the personnel department. They are the measure of the success or failure of the methods in connection with personnel problems.

Summary

A properly organized employment department should so function as to relieve the supervising force of most of the labor incidental to the maintenance of an efficient working force.

The duty of the employment department is to serve. The value of this service depends directly upon the amount of support and cooperation obtained from the balance of the organization.

EMPLOYMENT

WEDNESDAY MORNING—JUNE 4, 1919

PRESIDENT ROWE, *Presiding*

PRESIDENT ROWE: Ladies and Gentlemen—The meeting will kindly come to order. The session today promises to be a very interesting one. Mr. Burr A. Robinson, the General Chairman of the Committee on Employment Problems, is not present, but Mr. Harry A. Hopf, the Industrial Engineer representing the Federal Reserve Bank of New York, is here and he will take Mr. Robinson's place in charge of the proceedings.

MR. HARRY A. HOPF (Federal Reserve Bank of New York): Mr. President and Delegates—I was asked yesterday to act in Mr. Robinson's place as the exponent of the views of the four committees that have to do with the subject for this morning, namely, employment problems. I notice that the four reports which are to be discussed are grouped under the general heading of "Employment Problems," and it seems to me that only Sections I and IV are active employment problems. The report has for its second division "Psychological Tests and the Results Secured from Such Tests," and for its third division, "Job Analysis," and these things refer more particularly to the mechanics of selection. I am quite free to confess that I know nothing about report No. I, and very little about report No. IV, that is, Sections I and IV. The report on Section I arrived this morning—it has not been printed and, in the absence of its chairman, Mr. Robinson, the report will be read by our Executive Secretary, Mr. Henderschott, and I now call on Mr. Henderschott to present the report of the Committee on Labor Turnover.

MR. F. C. HENDERSCHOTT (The New York Edison Company): The problem of employment has always been assumed to include the question of labor turnover. Today, on the contrary, investigations indicate that the question of labor turnover includes employment.

When considering the organization of this committee, President Rowe thought that we could get a foundation for further study of this subject by subdividing it into four divisions. Sections II, III and IV of this committee were able to send in their reports sufficiently early to have them printed and distributed before the Convention. The task assigned to Section I was a very difficult one. Some of you will not fully understand this section of the report, because you are not Class "A" members of the Association. The whole subject was treated rather thoroughly in a confidential report which was sent to all Class "A" members last fall. This report recommended that the members take up the subject of labor turnover, its cause and extent and, if possible, to make some suggestive remedies. We then asked Section I to take up the problem from this point, and devote its energies wholly to one division of it; that is, determine several methods by which the cause of labor turnover may be determined.

I agree with Mr. Hopf that the question of labor turnover should be taken from this combination, and not considered as an employment problem, because labor turnover comprises every feature of management.

Mr. Robinson and his committee have been very earnest workers. He expected to present his report this morning, but was delayed at the last moment and could not get here. I have just received the report and I think I can read it in twenty minutes. (Executive Secretary Henderschott then read Section I of the Report of the Committee on Employment.)

CHAIRMAN HOPF: I have always understood there are two classes of people, from the standpoint of impression, those who are eye-minded and those who are ear-minded. Speaking for myself, I belong to the former class, and must confess to a feeling of bewilderment, which is no doubt shared by some of you, in listening to such an excellent report without having had an opportunity to look at it beforehand. The report is a most complete dissertation on the problem of analyzing the cause of labor turnover, and my impression, apart from my bewilderment, is that it is an excellent contribution to the subject. Mr. Henderschott has given considerable attention to these matters and, while our program this morning does not allow of much discussion on this particular report, I will ask him if he will not supplement his reading of the report by making certain general statements and conclusions which appeal to him as being proper to the occasion.

Mr. Henderschott: I had not thought of discussing the report, but my own experience in employing help, which has been wholly for the commercial division of my company, covering a period of about seven years, would lead me to offer just one thought for your consideration, and that, I assume, will come out rather clearly in Mr. Hopf's division of the work.

When I took up the work I am now carrying on for The New York Edison Company, I discovered one thing rather quickly—we were hiring without any regard to the ability of the person to fill the position vacant, so that the error was on the side of hiring people who had a great deal more to capitalize than the position would permit. For example, we hired thirteen technical college graduates within a period of eighteen months, and lost eleven of them. Two of them remained because there were positions in the department which would pay in one case $35 per week, and in the other case $42 per week. I discovered we were hiring college graduates without even asking them if they were college graduates. They came in looking for jobs, and looked good, and we hired them. The reason they came looking for positions was because they intended to write theses in order to secure degrees, and our company being one of the largest electrical operating companies in the country, it was naturally to their advantage to have a year's experience in such a company, as they were going to write on the subject of public utility corporations.

We soon stopped hiring technically trained college graduates unless we had a position that required a technically trained man. We then turned our attention to high school graduates, and after a thorough trial we reached the conclusion that the individual with a high school training is particularly adapted to the work of our department. Except in rare cases, the young man without high school training is unable to make good, because he cannot grasp the training the company gives in its commercial school, which involves seventeen courses (some of which are very short courses and others run for two years, depending on the subject). Of course, there are some young men who have had grammar school educations, plus a native intelligence and willingness, who will ultimately prove to be as good as and better than some who have had high school training, but I am speaking of the average boy, not the exception.

However, while we reached the conclusion that we would hire nothing but high school graduates, we still had to face the problem of what to do with those employes already with the company who only had grammar school educations. These employes, except in rare instances, were unable to grasp the training necessary for advancement, and as a result they failed to earn promotion and naturally became dissatisfied. They felt they were not promoted because of lack of "pull" or because of dislike or because of everything on earth except themselves. They could not study, they could not qualify for the next position, because they did not have the fundamental education which would enable them to do so.

We had one of two alternatives, either we could discharge these people and add to the growing restless horde of people who wander about seeking jobs, or we could try and train them. We adopted the latter course. There were twenty-eight of them.

We placed them in what we called "Preliminary Courses" where they received instruction in elementary English, history, geography and civics. After some little time spent on instruction we gave them an examination in commercial geography, confining the questions wholly to the State of New York. We got some remarkable answers. I have quoted them many times in speaking in high schools in New York, and on one occasion a man got up and said, "I don't believe it; you cannot show me such examinations." I said, "Name a committee." He did so and the committee came over to our offices and I produced the evidence.

What were the questions? Take one, for instance. We asked the students to *name the three largest cities, outside of Greater New York, in New York State, and give a leading fact about each of them.* One girl gave Philadelphia, Buffalo and Massachusetts. She did not name any fact. We asked a boy in that examination to *give the railroad terminals in New York City.* He gave Tremont Avenue and 149th Street. In that examination we found out that rice was the principal farm product of New York City. We found that the Yosemite Valley and the Rocky Mountains were both in New York State. We found that the two principal canals in New York State were the Panama and the Suez, and that the Suez Canal was a more direct route to the East Indies.

Then we gave an examination in history. We found that the Puritans and Roundheads were religious pirates. We found that Columbus was a religious pirate. We found all sorts of things.

Now, these things are funny until you analyze them. We are a public service corporation. We are constantly under pressure of public opinion. We are one of the "soulless" monopolies, and the question arose, can one render the kind of service that the public has a right to expect with this kind of employe?

As the result of our examinations, fourteen of these people resigned their positions. The girl that gave Philadelphia, Buffalo and Massachusetts as being in New York State afterwards became chief stenographer to the publicity man who handled the publicity for the Federal Food Board of the State of New York, and the other thirteen made good. We arranged special courses and taught them, but you can see that you cannot expect this type of employe to do efficient work.

So we have continued for seven years. Our Preliminary Courses, as we call them, are designed to correct the fundamental deficiencies of the employes who are in the company, but we have ceased employing this grade of help. It is a mistake. It is just as big a mistake to hire a college graduate for a high school boy's job, because that boy has certain abilities and should be given an opportunity to develop them. The college graduate has certain abilities, or he could not have gone through the process of receiving a college education, and he has a right to capitalize those abilities, and he cannot do that in a high school boy's job, and so your labor turnover is bound to be high. It is as bad, on the other hand, to hire people who have not the fundamental educational qualities so that you can qualify them for their jobs, because you are hiring people who will be disgruntled, who cannot be promoted into higher positions because of their natural deficiencies.

CHAIRMAN HOPF: Our time is well assigned this morning, and I may state for the purpose of discussion that three minutes will be allotted to each speaker. It is unfortunate that we must have this rule, but there are several important reports to be presented and the discussion should be limited to statements of general conclusions. Will someone follow Mr. Henderschott on the subject of cause of labor turnover?

MR. L. E. BARRINGER (General Electric Company): I want to ask the speaker a question in regard to these young men and young women he spoke of, who seem to have such a wofully inadequate education, was that situation brought to the attention of the proper education authorities in New York State who are located at Albany?

MR. HENDERSCHOTT: Yes, it was. In bringing the matter to their attention, they challenged my data, and appointed a committee, and I gave them a lot more examinations on other subjects. One member of the committee said he thought they were faked up, he could not believe it. He said—"I do not question your honesty, but I cannot believe it." He was the principal of one of the high schools. There are twenty-one high schools in New York City, and I have spoken in all of them. I got a deluge of invitations to speak on this matter, and I laid the papers on the table and said—"Look them over, but do not use the names."

MR. BARRINGER: The reason I asked the question was that I am a member of the Board of Education at Schenectady, N. Y., and I know that such things must be brought to the attention of the Board of Education to be corrected. To my mind it is more important to bring these deficiencies in public instruction to the attention of the proper authorities, as Mr. Henderschott has done, than to attempt to correct them, as some corporations attempt to do by training. If we find such defects and attempt to train the young men and women possessing them, the fundamental fact that defective methods of education are being followed in the public schools would be allowed to pass. It is a very serious thing, and everyone who observes such cases should bring them forcibly to the attention of the local Board of Education, and if improvement cannot be gotten there (owing to the fact that there may be a political Board of Education) then the matter should be brought to the attention of the authorities at Albany, in the case of the State of New York, or to the proper authorities of any state where similar conditions are shown to exist.

MR. HENDERSCHOTT: I am glad you spoke of that. That is one of the functions we are encouraging in every local chapter—the relations between the public schools and the industries. We did try to get our people to go back to night school; some went back, but most of them did not. It is not the fault of the public schools, and I do not wish to pose as finding any fault with the public schools—not but what they can be measurably improved, but they will not be improved from the standpoint of industry until industry takes a greater interest in the public schools. It is our fault as much as theirs. It is obvious that no one who has devoted her training and experience to industry has the academic point of view. We cannot have it. It is as obvious that people who are purely academic, and have had all their experience along academic lines, cannot have the economic point of view. You must have a medium through which the two can meet, and that we are trying to provide in our local chapters.

MR. SYDNEY W. ASHE (General Electric Company): Just one idea: I am a great believer in having your local educational authorities do all the educational work you can possibly get them to do. I do not believe in duplicating work that the school authorities can do. But, on the other hand, I think everyone who has ever done very much industrial educational work finds it is highly desirable to do a little work, to make up for certain natural weaknesses that seem to exist in your local public educational institutions, because the minute that you start something to correct a deficiency that exists, it gets the school boards and all the other educational institutions on the job.

I know in our community we have developed a very highly organized evening school. In a big company, you know, you have all kinds of material and talent, plenty of ideas, people who have had teaching experience, ample machinery and facilities and everything to work with. We have built up a good evening school of our own, but in doing this work we never attempted to put on a course that the city authorities were carrying on, but where we would find that they could not meet the conditions, or for some reason the people were not interested and did not attend the course, we organized something ourselves, and the result has been by following that policy, we have not run into any antagonism with the city authorities and we have gotten them to see that there is need of certain things, which we are doing, and at the same time we have been able to do certain work better ourselves, and we have gotten a better condition all around.

I simply want to emphasize that point, that where you have anything that is pretty good, it is better for the industry to get behind it and help it along, as Mr. Barringer pointed out, rather than to start something new, but on the other hand, you want to do something yourselves, as that is the quickest way in which to get certain undesirable conditions which may exist with regard to education improved.

CHAIRMAN HOPF: This discussion is extremely interesting, but our time is expiring. Personally I am glad that this report will be printed and distributed to all the members of the Association. I think this is a step in the right direction in line with the discussion which was so interesting yesterday afternoon.

METHODS OF FIGURING THE COST OF LABOR TURNOVER

BY SUMNER H. SLICHTER

1. Concerning the uses of turnover cost figures, the report states: "Turnover cost figures offer a better method of comparing results in different departments and companies and periods of time than the use of percentage figures, as at present, bases on the individual as a unit."

I am not sure that I understand this statement, and therefore my remarks may be irrelevant. If the statement is meant to imply that a high turnover cost necessarily or even usually represents a less desirable condition than a low turnover cost, I think it should be qualified, for I think that this is far from being the case. For example, a company which gives elaborate and intensive training to its new employes will have a much higher breaking-in cost than a company which gives little or no training. Not only does the first company have the expense of specialist instructors and of equipment and materials for the instruction, but the deficiency in output attributed to the new man's inexperience will be much greater in a company which gives elaborate and systematic training. The reason for this is that where the efficiency of workmen has been developed by systematic instruction, the standard normal output of the average good man from which the deficiency of the inexperienced man is measured, *is much greater than in a plant where systematic training does not exist.* And although systematic instruction hastens the development of new workers, since they have a higher standard to attain before they attain normal efficiency, their breaking-in period is likely to be almost if not quite as long as in shops where systematic training does not exist. The high turnover cost under these circumstances does not signify an unfavorable condition compared with the lower turnover cost in the second company.

2. In compilations of figures to illustrate the cost of the labor turnover it has been customary to emphasize the high cost of replacing *semi-skilled* workers and to give little or no attention to the cost of breaking in common laborers beyond a bare statement of the estimated cost of breaking in a common laborer (Mr. Alexander's estimates are an exception to this). This has tended to create an exaggerated impression of the average cost of breaking in men, since the fact has escaped attention that by far the largest part of the turnover is among common laborers with a very low breaking-in cost. I think that this fact is worth calling attention to. In a plant I recently visited 2,737 out of 5,107 separations in 1917 were common laborers. On pages 67 to 69 of my book I have presented some material on this point.

3. The item of overhead charges has been used extremely loosely in computing turnover cost and has often served as a means of padding the cost figures. Often this item is the most important item in the total turnover cost, as in the figures of Mr. E. H. Fish cited on pages 331 and 332, in which of an estimated cost of $444.75, $395 is due to this uncertain item of overhead. The way in which the committee states the cost attributable to overhead in its analysis of the factors of cost on page 329 seems to me to be correct. The committee has quoted part of my criticism of the methods of handling the item of overhead. In view of the great importance of the item of overhead in turnover cost and in view of the looseness with which the item has usually been computed, it seems to me that it would be desirable for the committee to add a brief analysis of its own of the proper way of estimating the overhead. I think the report might well raise the question whether the turnover as a rule is responsible for *any* excess investment in plant and equipment—I doubt very much whether as a rule it is.

I think it is unfortunate that after making so sound an analysis of the method of computing the overhead cost that the committee should append examples illustrating actual calculations of turnover cost which conflict with the committee's analysis of how overhead cost should be calculated. For example, in the calculation of Mr. Fish cited on pages 331 and 332, overhead is charged against the new man at the regular rate of manufacturing overhead instead of merely the overhead on the *excess* investment for which the turnover is responsible. In the third example, the calculation of Dr. Sawyer, overhead appears also to be charged against the new worker at the regular manufacturing overhead rate. It is not stated in so many words that it is so charged, but the overhead charge is made equal to the lost productive labor. It is inconceivable that the overhead on excess investment made necessary by the turnover can be so large, and it is very common in estimating manufacturing overhead to assume it to be equal to direct labor. It therefore seems pretty obvious that this is an overhead charge at the regular manufacturing overhead rate.

This whole question of overhead charges as an item of turnover cost needs thorough discussion.

4. The committee calls attention to the fact that a deduction should be made from the turnover cost due to the fact that inexperienced men receive a lower wage than men of average proficiency. This item has been so frequently neglected and is of such great importance that I suggest it be given a little special emphasis. The rate received by newly hired workers is frequently five, ten, or even fifteen or twenty cents an hour less than that of experienced workers in the same occupation.

5. I would suggest changes in the customary method of computing the hiring cost, but this item is so small as not to be worth bothering about.

6. Another minor point is the cost of men hired but not reporting for work. The committee's outline of cost items makes no provision for this cost, but on page 335 the committee quotes an estimate of this cost which runs from $3 to $6.75 per man. This estimate seems greatly exaggerated, for in the majority of instances a man hired but not reporting probably occasions little or no cost. In cases where work cannot be delayed it can usually be done by overtime, in which cases the excess of overtime rate over the regular rate measures the cost.

Section II—Psychological Tests

Chairman Hopf: Now, we must take up Section II of the report dealing with "Psychological Tests and the Results Secured from Such Tests." Dr. Henry C. Link, the Chairman of the Committee, cannot be present, but another member of the committee is here and he will present the report to you and lead in the discussion. It gives me great pleasure to introduce Mr. Laurence W. Lane, the Personnel Director of the Successful Farming Publishing Company, of Des Moines, Iowa.

Mr. Laurence W. Lane (Successful Farming Publishing Company): Mr. Chairman, Ladies and Gentlemen—There is a shortage of the printed copies of this report, and consequently a large number of you have not had an opportunity to read it. Therefore my talk will be in the nature of an outline of its contents. In that way it will help us to clarify the discussion which we hope will follow. I regret that Dr. Link is not here to present the report, as it is largely the result of his interest and his efforts.

For the past few years we have been using interchangeably three methods of selection. The old-time method of observation, interviews, and by interviews I include social, educational and industrial history, and third, psychological tests. As for the observation method only, I think we have already gotten past that period. If we have not, there are experiences which come up from time to time which remind us that we cannot depend on observation alone. Only last week a young lady was shown into my office by the interviewer, who, as she said, could not "figure out" the applicant. She was neatly dressed and refined in appearance. My first thought was that she was a high-type private secretary or business assistant, but when I looked at the application card, I found that for the past six months she had been trucking tombstones in the Rock Island freight house, and careful investigation proved that that was about where she belonged.

A lot of wild, extravagant statements have gone forth in print regarding psychological tests, largely since the work was done in the army. It has started a discussion that has not been as helpful as it might be. If we are to develop applied psychology, it is through such meetings as this, that those of us who are interested in psychological tests, should hope to keep them going along the right way, and to keep them from falling into disrepute through exaggerated reports and criticisms which are usually given wide publicity.

Your Committee has defined a psychological test as "a set task which the person being tested is asked to perform." That is a wide definition. Almost any kind of a test we consider a psychological test. The thing which determines it is the scientific accuracy with which it is given, and that is the one thing which, in giving psychological tests, is quite often forgotten. It is this scientific accuracy and technique with which these tests are given that determine their value.

We have defined two kinds of tests—one, the tests for acquired ability, which includes almost everything in the way of skill, the army trade tests, such tests as arithmetic and spelling, and, second, the test for potential or innate ability—a test in the application of which there is the largest field, the test which offers the greatest possibilities, and yet the test concerning which we know least. It requires more care than the trade tests, because there is seemingly little connection between the tests and the work to be done.

The subdivision in industry is bringing us to the point where intelligence tests will be of increasingly more value. It was found in one institution of 18,000 workers, distributed over 9,000 jobs, that 73 per cent of the workers were unskilled.

A great deal of discussion has come up as to the value of these tests in testing character, and things of that kind. That, of course, is where it runs into the popular discussion. There is no scheme known by which a psychological test, considered in the broad sense, can determine honesty, industry, perseverance, etc., but the report mentions this factor, that probably there is some connection between skill and character, and in that sense they do test character.

Now, I come to psychological examinations in the army, very much misquoted, very much misunderstood, both in the army and out of the army. I once had a man come to me in a Southern camp. He was a long, lean, lanky man from the mountains of Tennessee, and he said: "I want to sit on the front row." I said, "Why do you want to sit there?" "Well," he said, "the boys in my company told me of a chap who went into Camp Devens and made a perfect score on the examination, and they made him a major the next day." This man wanted to be a major. We got many such stories from the men.

There were two kinds of tests which were used in the army. First, the general intelligence test. Primarily, a test to determine the soldier's ability to learn, his ability to comprehend instructions, his ability to think quickly and accurately. It was, in that respect, I think, without doubt a success. It sorted out the low grade men for special consideration, and it sorted out the high grade men for special recommendation for promotion to positions of responsibility. In addition to that, it was used in balancing mental strength of organizations. This test was only intended to supplement the other personnel work that was done. The psychological rating was placed on the personnel card, and in that connection it had its greatest value and use.

The trade tests, with which many of you are familiar, were the tests for acquired ability. They consisted of oral, picture, and performance tests.

Before applying these tests to industry, the Committee feels that there is a lot that can be done, and a lot which should not be done. In industry the problems are more complex than those with which we had to deal in the army. For that reason, the tests cannot easily be used as they were used in the army, and in addition to this complexity of the industry is the added feature of familiarity with the test. We found, as you know, that a man who had taken the test successive times, should get a larger score on the repeated test.

The greatest value, your Committee thinks, in the army test, was the fact that it developed and made us understand the value of an exact technique in getting these reports. The instructions were outlined definitely and specifically, and the men engaged in the work were made to adhere rigidly to these instructions. That is a thing which should be done in industry.

As to the application of tests in general to industry, it was found in 118 companies, that 25 per cent used tests of some kind; that 15 per cent of them were planning to use tests, and practically all of the rest of them were interested. There were very few, if any, who had definitely set themselves against using psychological tests. This, of course, includes all kinds of tests given in all kinds of ways, some of which should be called psychological tests, and some of which should not be called psychological tests. They were being given with varying degrees of success, some of them with remarkable success. The failures were largely due to improper observations, lack of technique, and lack of standardization in methods of giving the tests, all of which can be easily corrected.

Salesmen's tests, as you know, have been developed largely by Dr. Scott and his associates at Carnegie Institute. These tests are being used successfully and are being improved. A great deal is being done with tests in retail selling. In several parts of the country special work is being done along this line.

There is another field, and that is the office boy. The office boy's job is almost an indefinable job, and you cannot give psychological tests successfully until you can define the job. There are companies that are employing psychological tests in connection with the employment of office boys, and one company reports a certain amount of success. Others report unconditional failure, but are still trying.

In training, there is an added field of the application of psychological tests. This, I think, is the place where general intelligence tests will come to be most valuable. They can be used to test the beginners as they enter. The main thing you want to know is their ability to learn. Psychological tests are being used in trade schools to test progress, and in addition to this they help to check the methods that are being used in the schools.

Now we come to the question of who shall do this work, whether it shall be primarily a psychologist, or primarily one who has been industrially trained. The Committee feels that there is no doubt but that the psychological tests are most successful when they are given by someone trained in psychology, and one who understands the technique and the importance of standardizing all of the conditions. There must, of course, be some knowledge of the industry, but it is felt that this can be acquired in contact with the employment office, and in contact with the job, better than one who is trained in the other line can acquire the psychological factors.

As to the element of cost and equipment, there is very little to be said. Very little equipment is required as far as the practical operation of the work is concerned. As to the matter of cost, we were only able to get one figure, where a large number of persons had been tested, and that was $1.50 per person, the cost of testing for the first year. The second year that figure was lowered to $1.30 per person, due, as you will understand, to the elimination of certain necessary preparatory work which was required in the first year.

As to the place of the work in the organization, the Committee feels that the psychological testing division should be a part of the personnel department, that it should not be under the employment division; but rather in cooperation with the employment division. The exception to that is, of course, where there are less than five hundred or six hundred employes, and then the work can be done by one man or woman.

The danger of the wholesale application of these tests is great, as is shown by many mistakes that are being made. It should be clearly understood that psychological tests are not a panacea and do not decide whether a man should be a butcher or an engineer, but that there are a few things which they do tell us when they are used in the right way.

Because a test is successful in one institution does not mean that it will be successful in another institution. Not long ago I got a set of tests from someone who insisted that we should try them, assuring us they would be successful in our work, because they had been so successful in his plant. It does not follow at all, because generally the conditions are all different.

There is another element that is often overlooked in psychological tests, and that is the follow-up. They give psychological tests, and if the general impression is good, they decide that they are successful. If someone opposed to them kicks a little harder than someone else, they decide they are not successful. Psychological tests can be checked up and followed up very closely, and only in this way can you really determine the success or failure of them. They can be checked with production records, labor turnover records, personal reports through foremen, and in other ways.

In conclusion, we want to leave with you two or three thoughts; first, that psychological testing must be used to supplement your other information, that it should be an added feature to the interviewing, and it should not stand alone; second, that the trade tests, the tests of acquired ability, will prove valuable when proper deductions are made in the hiring and firing of skilled labor, and that the great field for general intelligence tests is in the entrance examination to training schools, and as training schools are perfected in their operations, we think the psychological test will go along with them. The last point we want to make is that psychological tests are only successful when they are given with careful, cautious technique by a person who has the temperament and the ability to give them in that way. I thank you.

CHAIRMAN HOPF: We have heard the presentation of this excellent report by Mr. Lane, a report which, in many respects, is one of the most valuable which will be rendered at the Convention. The whole subject of selection has passed out of the nebulous stage, I am glad to say, and we are today far surer about certain things in connection with selection than we were a few years ago, when we had to grapple with the whole organization problem of personnel relations, and such things as psychological tests were still in the minds of a few wonderful pioneers who were giving attention to that subject in a comparatively limited way. The psychological tests today rank rather high in the mechanics of selection, and the contribution by this Committee to my personal knowledge of literature on the subject is a notable contribution. I hope we may have a full and complete discussion of the subject.

MR. HARRY H. TUKEY (Submarine Boat Corporation): I should like to ask Mr. Lane one or two questions, and for its informational value, I will state our situation.

Our Training Department in the past year trained somewhere between 9,500 and 10,000 men; these men have been trained in hull construction and in hull outfitting. Naturally, anything which will be of value to us in predetermining a man's ability to learn, or to predetermine his ability to succeed in a given line of work, would be immensely valuable to us in connection with training 10 000 men.

In rough figures we probably have placed in our Training Department some thirty thousand men since the middle of March, a year ago. At the present time we are placing four hundred men a week in this one department. A weekly average of from 175 to 200 are being transferred from the department as trained. This means we are losing probably 200 a week in the process; in other words, we are getting one man out of every two that we select; this is even better than during the war period. The class of labor applying at our plant at the present time is more satisfactory than at that time. Our labor for the Training Department is all employed by one man, who is an employe of the Training Department, acting in cooperation with the Employment Department. His method of determining an applicant's fitness is, as you have stated, i. e., by sizing him up physically, and so far as possible, mentally, taking into consideration his previous experience, as much as possible, and if there is no previous experience that is at all allied to our work, the man is assigned to the craft he seems best fitted for, and there he is trained in that craft by one of 100 instructors—we have had as high as 125 instructors.

As concerned with the psychological side of the question I probably am, Mr. Lane, a little vague. My conception of psychological testing I will explain—not intending to make fun—is based on what I have read, I believe, in the Sunday magazine of a newspaper several months ago—some such examination as this: If your grandmother's hair is white, put down "No." If her eyes are green, put down "Yes," and there is a certain length of time in which the answers must be completed.

It has been our experience in connection with employing 400 men per week in one department—that is, perhaps an average of 75 to 100 a day—I repeat, it has been our experience that this condition affords us little time for the psychological testing you mention.

In connection with the trade test, I understand a man is put through certain exercises that are typical of that trade. Our experience has been that in order to definitely determine the correctness of our judgment in selecting men, it has taken from three days to two weeks "upon the job" before the instructor can definitely know whether or not the man can "hit the ball." Now, is there any way, Lieutenant Lane, by which, under our conditions, we can predetermine the man's ability to learn, for it must be realized that we are interested, as to the extent that we can reduce labor turnover to that extent do we reduce the cost of training, and further, we increase the number of men that are turned over to the production department per week. Now, if there is anything in the psychological test or trade tests, which we can use, there will be a tremendous advantage to our department in the application of those tests. I thank you.

Mr. Lane: As I said before, the trade tests would be used simply in testing acquired skill, and if you have men coming in to your plant who are supposed to possess a certain amount of skill and training, there is no reason that I see why adaptations of the trade test could not be successfully applied in those cases. In the other case, which is the problem of general intelligence test, I do not see why you could not use that. The difficulty has been as you suggest, in the time element. Say you are employing thirty or forty men a day, and you want to examine that many on general intelligence, you could examine them all at once, in a half hour or three-quarters of an hour, and if you divide the time taken by twenty or thirty or forty, the time element is not a big item.

Does this answer your question?

Mr. Tukey: Yes, except in our own situation we must get the material ready quickly to meet the production requirements, we must get the men on the job at once. Instructors give two days' advance notice of labor requirements, and as a rule we supply men today to start work tomorrow morning. If we can hold these men until the afternoon, these prospective employes, and present an examination of the nature you suggest, it may assist us. In connection with determining the claimed ability of men who require further training—for instance, we have a number of structural steel workers and bridge workers and also men who come from car shops, who can drive button head rivets, but are unable to drive the flush rivet, in the shell of the ship. We have large numbers of men who have been able to qualify as button head riveters who, when placed on flush riveting, with the gun in their hands, have fallen down completely. If we can accurately determine the qualifications of these men before placement there will be a very considerable saving. We have done some testing, by putting men at work for a half day, observing them closely to determine their fitness for the work, but that is as far as we have gone.

Mr. William B. Purdy (The Atlantic Refining Co.): With reference to the remarks of the preceding gentlemen, I might say that we are anticipating the operation of a testing laboratory in connection with our employment work, for the express purpose of determining the way in which the respective employes handle tools, also machines, rigging apparatus and other points which may be pregnant to their occupations. This laboratory we will probably use in connection with a series of trade tests and mental examinations, but probably not to the extent of utilizing technical psychology in connection with it.

MR. ALBERT C. VINAL (The American Telephone and Telegraph Company): I think that the paper that has been presented, or rather the remarks by Mr. Lane, have been particularly valuable in their conservative attitude in regard to the psychological tests. For two or three years I have been considerably concerned for fear the whole movement would be set back by reason of unscientific work. Mr. Lane answered the question who should give the tests—as I understand it, that was the question—who should give the tests. It seems to me that there is room for disagreement with his answer. As to the development of the tests themselves, I think there is no question but what it is distinctly a scientific piece of work, but when it comes to the giving of the tests, the army experience amply bears out the fact that this need not be done by scientists. As a matter of fact, it was done very largely by non-commissioned officers who were trained to do that work.

Another thing is suggested to my mind by what Mr. Henderschott said. When we talk of selection we usually think of selecting out the best and leaving the poorest. As a matter of fact, often the practical problem is to select out those who have not too much mental ability for a particular job, as is the case with work which is of a simple, repetitive character. In such work a person with too much mental ability will not be content with the work, and psychological testing can be of great value.

Another point which is pertinent to the discussion is a reference to an article by Dr. Thorndike—contributed to *Science,* issue of January, 1919. He points out that mechanical workers, men who work with tools and mechanisms, do not show up as well in psychological tests using words and symbols as do clerks who ordinarily work with words and symbols. An intelligent, high-grade mechanic, under such circumstances, cannot give as good an account of himself as a clerk of less intelligence who is in the habit of dealing with words and symbols and paper and pencils.

In explaining the value of psychological tests, I heard Dr. Terman, of Leland Stanford University, give what was to me the most illuminating analogy I have yet heard. He defined them as a sampling process, just as the assayist in determining the quality of the ore vein samples the ore in different places and then makes his analysis. The ore is assumed to be like the sample. Similarly, psychological tests are merely a sampling of the mental performance under various conditions. In the army intelligence tests, one test is a sample of common sense, another of judgment, etc. It seems to me that helps to bring them out of the occult field and gives a general conception readily grasped.

Mr. Lane has been very conservative in regard to his statements, and I think perhaps he has gone too far in underestimating the value of the psychological tests in the army. While one of the great values of the tests was to determine whether a man was teachable and had the ability to learn, they also went much further. The results were very good for high-grade men. I have seen some interesting results in giving the tests to men who ranked very high.

MR. J. E. BANKS (American Bridge Company): The gentleman who presented the report spoke of the three things for determining the fitness of the candidate for the job, and with regard to the first, that of observation, he stated that the time has come for us to put observation into the discard, but he said a short time afterward that the matter of character cannot be determined by psychological testing nor by the interview written out on the cards.

Now, is not the observation test the beginning of that test of the candidate, that you might call the character test, and would it not be better for you to count on that as the beginning test, and also as the final test, no matter what comes in between. I would not care how well a person passed as regards the interview card, or how well he might pass as regards the psychological test, if, looking at him afterward, I did not like the person, and I do not think there is any kind of test existing which compares with that which comes through the eye, and judgment based on experience and association with human beings, and the classification of the character of a person by looking at the person. It is that intuition, which womankind think they have more than men have, which comes with the growth of years and common-sense, and I would not allow anything else to determine my judgment of the fitness of a man more than that one thing.

Mr. J. J. Garvey (Western Electric Company, Inc.): I am afraid I cannot agree with Mr. Banks. I have been using psychological tests after a fashion in our training department in the Western Electric Company for about two years. We started in on a small scale, and now we test everyone who goes through the training division. You never can tell by the looks of a frog how far he can jump; neither can you tell by the looks of a boy how much mental development he has in his head. I have seen some of the worst specimens sit down in my office, that I did not think had any brains, and it was not because the boy appeared to be defective, or anything of the kind—he was bashful and diffident, and came from a home where he was not in the habit of associating with strangers, and a psychological test will show in such cases whether the boy has the general intelligence necessary for the job or not.

I do not know whether I wrote the chairman of the committee that we use the psychological test in connection with the employment of our office boys or not. I corresponded with Dr. Link, but I do not know as I mentioned it, but I will say that we do test our office boys. The office boy in our company is an office boy for about a year, and then he is promoted to some other position. This office boy job is a temporary job. He is the bottom round in the ladder, and the only thing we need to test the office boy for is general intelligence. If he has the general intelligence necessary, his qualifications for a better job will develop as he grows, and it is our business to follow the boy on the job, and see that the opportunity is given him to advance to the definite training that is necessary for his success.

We do not attempt to hire anyone for training work except through a psychological test. The biggest snag we have run up against is the one of determining moral character. We can test a boy for his intelligence, but we can never tell whether he is a liar or a thief, or whether he has any other bad characteristics, and that is one of the largest factors that make for success in business.

In the testing of boys for trade apprenticeship, we use the Stenquest test. I am not ready to say that the Stenquest test is one that I can depend on. It is supposed to assist you in determining mechanical ability. But we have to follow that up with actual observation in the shop, and we cannot rely upon it exclusively.

When it comes to general intelligence of the applicant for apprenticeship, if he passes our test, we feel perfectly safe to go ahead as far as that characteristic is concerned; but with regard to the moral characteristics necessary in a high-grade mechanic, we can only guess at them, from a personal interview with the applicant, judging by his appearance, and other things, and his general bearing. As I have said before, we can only determine that by a personal interview and a "sizing up," as Mr. Banks says. But we do feel that tests of this nature are a very great help to us, and we would not attempt to hire anyone and fasten him on the organization without giving him these tests, and after that, a very close follow-up.

You never know whether you have done a decent job until you have seen the finished product, and you cannot tell what the finished product is if you do not follow it. The hiring of a person and placing him on the job, then forgetting all about him, is very bad business, and a follow-up must be maintained if you are going to achieve any success with your test.

Mr. P. E. Wakefield (Carnegie Steel Company): Are any candidates for positions in the training department of your company accepted solely on the basis of the psychological tests? In other words, if a young man applies to you for a position as an apprentice, and makes a certain average in the test, which is not satisfactory, is he rejected on the strength of that alone?

Mr. Garvey: I would say this: In connection with our psychological tests, we give one in mathematics, because the boy that is going to be a mechanic must be something of a mathematician. We require him to be a graduate of a grammar school. If he cannot do the mathematics pertaining to the highest grade in the grammar school, we do not accept him. If he does not show the general intelligence necessary to the job, we also reject him. If he shows well in these two tests and does not show very well in our mechanical test, we will probably give him a try-out, because we have not yet been able to find a test for mechanical ability on which we can depend.

Mr. Wakefield: I think your company is making no mistake in that respect. We have a Bureau of Salesmanship Research in the Carnegie Institute of Technology. The man who has charge of this Bureau said he made this distinction between men, the distinction which Mr. Vinal pointed out, those who habitually exercised their minds through ideas and symbols, and the men whose work makes it necessary for them to exercise their minds concerning things. The intelligence test does not work successfully in the latter type of men, the men who work with things rather than with ideas. Dr. Miner said very positively to me that he would undertake to devise an intelligence test that would pick out an exceptionally intelligent man, whose chance of making a substantial success was unusually good, but that he would hesitate a long time before he would attempt to pick out a man who ought to be rejected, especially in the particular line of work Mr. Garvey and I are interested in, training young men for mechanical positions.

MR. GARVEY: Do you reject on the intelligence test where they do not pass the test satisfactorily?

MR. WAKEFIELD: Yes.

MR. HENDERSCHOTT: I think there are two factors that ought to be kept in mind in considering this problem.

Those of you who do much employing along commercial lines realize that some people have a faculty of selling themselves very well, and others are very deficient in this line. The question of salesmanship comes up there to some extent.

I will point out one case which to me is interesting, one out of many that we have encountered. A girl came in to apply for a position in our Home Economics Bureau. Before she came to me, she went to see my superior officer, Mr. Williams. Mr. Williams advised, through his secretary, that he was not very much impressed with her, and left it to my judgment as to whether I should employ her. She came in to my office as if she were going to a funeral. I asked her if she would not sit down. She hesitated, and finally did so. I talked with her a little while, and finally she burst out crying. I said—"Have I said anything to offend you?" She said, "Oh, no." I said, "Suppose you come in and see me tomorrow; you seem to be upset today." She came in the next day and appeared to be a little brighter. I talked with her for an hour or more, gradually leading her off from the subject of employment to a general discussion of the problems that would come up to her in her work. I hired her. She is the best girl in the department. The girl had never before sought employment. She was from the West, and in New York, bewildered, did not know what to do, did not know how to proceed, and she was terribly embarrassed.

I went in to see her a few days ago, and the manager of that department said, "My, but you picked up a fine girl for me when you employed Miss ——." I did not tell the manager of the experience I had had in interviewing the girl. You see, she could not sell her services. That is something we must keep in mind. Lots of people can sell themselves, while others cannot, and those that cannot sell themselves may have the greater ability.

The same thing applies to psychological testing, as pointed out by Mr. Vinal. The psychological test is unfair to the man who is not accustomed to writing with a pencil on paper. It is like a person not accustomed to looking for a job. Dr. Scott told me he could not hire anybody. He said he always gave preference to a tall dark man. The doctor spotted his tall dark man.

I think that Dr. Link and Mr. Lane are to be congratulated upon the work which they have produced. Lieutenant Lane is too modest to tell you he handled this matter in one of the cantonment camps. Many army officers cams to our Association's headquarters during the war to secure information which we had available, and that is how I met Lieutenant Lane.

MISS EDITH HECK (Westinghouse Electric and Manufacturing Company): We have tried out an "Intelligence Test" in connection with certain types of work in our company. Through experience we feel there must be some preliminary means to determine the applicant's fitness for any particular work.

We have been using Test No. 4 issued by the Bureau of Salesmanship Research of the Carnegie Institute of Technology. This test consists of Incomplete Sentences to be completed. For example—Incomplete Sentence, To —— many things —— ever finishing any of them —— a —— habit. Complete Sentence—To start many things without ever finishing any of them is a bad habit. This shows how quickly and accurately the mind is able to work. We also use the test of group words, such as giving the first word and having the opposite supplied. Example: Young, *old;* Wet, *dry*. Have the applicant write words that fit other words, as Subtract, *numbers;* Write, *letters;* Wash, *dishes.* Write words that tell what each thing named is, as Diamond, *jewel;* Apple, *fruit;* Pittsburgh, *city.*

In addition to an intelligence test, the appearance, bearing and previous experience of applicants should be carefully observed during the interview.

MR. C. K. TRIPP (General Electric Company): I should like to know if any consideration is given to the time of day when these examinations are given to candidates. The reason I ask this question is, I hire boys who often come from out of town—I hire a great many boys in the General Electric Company in the course of a year—perhaps eight or nine hundred—and I do not give any psychological tests when they apply because I have been fooled so many times.

At one time I thought I was a psychologist and was up on the subject, but I have changed my opinion. I would give a boy that came in on a train a certain examination and he would fail. If I did not know he had traveled all night, and did not conclude that this was the reason he failed, he would not get by. However, I will take a boy who lives in town, that has not stayed awake all night, and give him a thorough examination, but the fellow who has been up all night on a train and is tired out, is not in a condition to receive a thorough examination; but after he has had a rest and goes out and eats a hearty breakfast, he is a different fellow.

There are lots of factors that enter into the thing that we do not consider. We do not consider how many cigarettes he smokes the night before, nor how many dances he danced the night before, nor whether he drank too much strong coffee or whether he had a cocktail before he came in, and some of the young fellows do these things as well as the older ones. We all think differently after we have had a cocktail or a strong cup of coffee. I want to know if any consideration is given to these points?

CHAIRMAN HOPF: I might recite a case in point. About three years ago I had a great deal of work to do in connection with psychological testing in the selection of salesmen, and I was asked to test a man who came from Cleveland. He had been on the train all night, he was tired, and it was exceedingly hot that day, and along about three o'clock in the afternoon both he and I were in a process of disintegration on account of the heat. It takes some time to give the psychological test fully and correctly. I watched the man carefully, provided him with water; he shed various outer garments and he was all tired out. About forty-five minutes after he began to write out the test, he looked up at me with a look of suffering and he said one thing, if the ladies will pardon the expression: "Oh, hell," and he got up and walked out, and I never saw him again. He had been on the train all night, was worn out, and it was obviously an unfair performance to ask him to go into a test in the afternoon. That is the answer on the negative side. If anyone has any testimony as to the particular time of the day most favorable to a psychological test we can give a minute to this point.

MR. C. K. MUENZINGER (The Lakeside Press, Chicago): I should like to answer a few points that have been made, and especially the point made by the last speaker. The question really ought to be enlarged. We should ask about the conditions under which a test ought to be given. I am speaking here merely from academic experience. My business experience is a very young affair. We are trying at the Lakeside Press to introduce tests, but so far have not succeeded, and my experience is entirely that of the laboratory.

The question ought to be enlarged—you ought to ask this question: Under what conditions are the tests to be given? Certainly, according to my judgment, the time of the day is one of the important conditions, and there are other conditions which have to be considered. One of the conditions which have been mentioned in the discussion—what has preceded that immediate moment or hour in which you want to test is important; what that particular boy has been doing, perhaps, for the last week. It would be well, perhaps, to find out; and this information, in establishing the condition of the person who is undergoing examination, must be used in determining the result of your test, otherwise you are in the dark about the result of the test. You can take a highly intelligent person, and put him in a bad condition, and get a bad result.

I should like to enlarge on some other points that have been made in connection with the criticism of the tests, at least of the enthusiasm about giving psychological tests, and I should not like to pour cold water on enthusiasm. The question is, then, what is the psychological test to be given for? What does it really test? By psychological testing, you test a condition, a certain state. Now, take the descendant of the psychological test, take the trade test; you test the level of skill of a certain worker. Take the psychological test, you test the level of education and intelligence. What you do not test, however, is the man's ability.

The question has been raised by Mr. Tukey, the testing of the adaptability of the worker, and that is what we are most interested in. We may get an intelligent boy, and get a boy that has had some training along the line we wish to employ him in; but to my mind what we are most interested in is the question: Is that boy adapted to that particular work? How will he develop in his particular field? And I must say, according to my experience—not only my experience, but according to the literature of the subject, the psychological test, so far, does not give you a means of testing this adaptability. Of course, in testing a subject who is in a certain condition, by getting a knowledge of this condition you can make a certain prediction; but this prediction is not so very valuable, because you have not tested the adaptability. The psychological test will give you knowledge about a certain state, and by following up your test you can make your psychological test valuable. You test a man now and then; you test him in a week, or test him in a month, and by correlating the findings of these tests, with the experience that you have had with men in the shops, you establish the value of your tests. Otherwise you are still in the dark. You establish that the man is not quite an idiot, but whether he is adapted for the sphere of activity in which you desire to use him, that you have not established. Perhaps psychological tests can be developed by and by to test adaptability, and that is one of the most important things we want to find out about a boy or a man.

Another thing, the psychological test does not establish the honesty of the boy—whether he is a liar or a thief, as has been said before on the floor. The value of the psychological test, then, lies chiefly in establishing a certain momentary knowledge. This momentary knowledge is valuable in helping you to make a selection, but it could not possibly be used as the sole means of selection—I do not think so; perhaps you are of a different opinion.

I still think there is quite a little to say on the line Mr. Banks has brought forward, that the impression you form of a man has a good deal to do with the success of your selection, and for that reason a very important means for selection is observation, and observation and the application of the test ought to be coupled.

CHAIRMAN HOPF: Our time has expired. This discussion is very interesting, but we must close it. I am going to ask Mr. Lane to take five minutes in which to sum up the points made by the various speakers.

MR. LANE: Those of you who have gotten your idea of the army psychological test from the *American Magazine* have been misled. There were two other distinct types of tests in addition to those mentioned this morning.

Mr. Vinal brought up the value of psychological testing as depending on the one who is to give the psychological test. I think, Mr. Vinal, there has been some misunderstanding as to how that was handled in the army. The examiners in the case of group examinations were untrained men as a whole, non-commissioned officers who had been given these positions, not because they were primarily psychologists, but because they were good at handling themselves and handling the men, and subject to a certain amount of training. But their work was at all times under the direct and immediate supervision of officers who were psychologists. Time and time again these men in the army who were giving examination would give individual examinations which would vary from the standard, and we had to pull them back—men who were students in psychology were giving examinations on low standards, and failed to realize that the success of the work depended on sticking to the standards set down.

As to the matter of rejection on the basis of psychological testing, I think the answer to that question is "Yes," where the tests themselves have been tested and proven successful; and in cases, of course, where you have enough people and the labor supply is such that you can afford to reject. That thing was tried out in the army in regard to training officers. Men who received less than a C-plus in a psychological examination had little opportunity of going to the officers' training camp. In one camp the Chief of Staff refused to consider for appointment a man who had less than C-plus, and the result was that that camp had fewer rejections in the officers' training camp than in any other camp in the country.

As to the time of day when the psychological tests should be applied, of course there is an element of fatigue which is to be taken into consideration. In the army we gave psychological tests from 7:30 in the morning to 9:00 at night. We had to do that to get them through. We could not discover that there was any great difference in the result, depending on the time of day when the examination was made. We would have cases of men who were refused promotion and would make application for re-examination on the plea that they were fatigued or had a headache or a toothache, and these men were always given the benefit of the doubt and given a re-examination. In very few cases did they raise their grade.

The thing that overcomes the fatigue is incentive. The people who are going to take a psychological test all know they are going to be tested, and what depends on the success of their examination. They have a lot of energy and go through with the thing, and forget about fatigue and other matters which might affect the result of the examination.

As to psychological examinations testing adaptability, as I understand adaptability, these examinations certainly do test it. Adaptability is the ability to meet a new situation, and that is the thing we were trying to test and the thing I think we did test.

Section III—Job Analysis

CHAIRMAN HOPF: The report of Section III of the Employment Problems Committee is that on Job Analysis, and it becomes my privilege to present that report to you, as Chairman of the Job Analysis Committee.

A word of explanation with respect to the quality of the report. Our committee was not called together until February, when the duty was assigned to us of making a report on the subject of Job Analysis. Under the instructions from the Executive Secretary the report was to be submitted by April 1st. Two of the members of the Committee live in the middle west, and were able to come to New York for only one meeting. As a result it was not possible to submit the kind of a report on Job Analysis that would represent a very thorough discussion of the subject, so we confined ourselves to a brief description of job analysis, its methods and advantages, and a presentation of certain forms which were in use in member companies, and with which they had had certain experiences.

The function of job analysis has been surrounded with some mystery. The term "Job Analysis" has been used by some to indicate a certain activity of limited scope, and by others to include practically every management function that could be corralled under the all-embracing term of job analysis.

Now, I have personally no sympathy with the view that job analysis should reach out and cover every function in the organization. I think that is a mistake; I think it is better for us to stick to a fairly comprehensive, but yet narrow, definition of the scope of job analysis. We have set forth in our report the suggestion that the title itself, "Job Analysis," is susceptible to improvement. Job analysis, in our conception, means to analyze all the component elements of the job, accompanied by the statement of the qualifications necessary for success in that job.

There are, then, the two activities, the one to analyze the work into its component elements, and set up a concrete detailed element in the description of the job; and the other to determine what qualifications are necessary to do that work successfully.

I am sorry that the job analysis discussion is to follow that on psychological tests, because logically job analysis precedes the function of selection, and psychological tests should be based on job analysis; therefore it would have been better if we had reversed the order of reception of these two parts of this report. If we take job analysis as the basis, there are three other significant factors which are links in the chain of which job analysis is the first link; namely, methods of selection, progress reports, and finally, salary standardizations, promotions and transfers.

These factors belong together, and I have stated them in the sequence in which, in my judgment, they should be studied.

In connection with every job in the organization we must have an understanding of what the job is and what the qualifications are that are necessary for success in that job. We give a statement of the job analysis and these qualifications, and the personnel department and the employment division sets up, with the aid of the foremen or department supervisors and psychologists, the proper methods and standards of ascertaining the existence of these qualifications in the applicants who present themselves for employment.

If we consider any typical job we shall find that there are four elementary requirements, namely: honesty, health, intelligence and industry. These things should be made a part of the qualifications in every job analysis, but in addition to that it is necessary to establish the existence of other qualifications which are regarded as necessary for success in the performance on the job; so then, the problem, from the employment viewpoint, is to have these set up and have exact statements of qualifications in each case.

The psychological test is just one method of determining the existence of qualifications. It is an important one, but still it is only one, and, as has been indicated in our previous discussion, we have learned more and more about the psychological test through the experiences in the Army.

My own personal view is that the psychological test attempts to predict the probable performance on the job, and that it has not, as yet, passed out of the experimental stage, and should be used at the present time only as an auxiliary of your other time-honored and tried employment methods. Our practical problem is to sift out from among the human material that comes to our institution those who will show in a high degree the possibilities and the qualifications which the job analysis states are necessary for success.

We come now to the third step. We have inducted the material into the organization. We have so and so many people who are filling, or are supposed to fill, typical jobs. Our next problem is to decide how they have performed in line with the qualifications for job analysis as set up, and that is the raison d'etre of the progress record. We have on the progress record for each typical job in the organization a statement of the qualifications, and we ask the department heads, foremen and others in authority to give us an estimate of the performance on the job at periodic intervals, and we measure that with the showing made on the interview and with the showing made in connection with the employment processes.

So, then, we can say that the individual enters into an organization, first, as the result of a determination of what work he is to do, and what qualities he must possess in order to do that work intelligently; secondly, as a result of all the normal employment methods, including psychological tests, trade tests, and the whole range of systematic means of ascertaining his fitness. Then we have the important series of ratings during the first year, and of course thereafter, to determine how the man has exhibited these qualifications. I cannot stress that too much because all the factors belong together, and one should not be considered separately from the other.

Just a word on the contents of the progress report. I should say that the progress record divides itself into three divisions. We want to rate a man, first of all, on his performance on the job from the standpoint of quantity and quality of work, cooperative spirit, initiative, and such other qualifications as are involved in the particular job under consideration. Secondly, we want to determine the extent to which he reacts to any welfare work which we are undertaking to promote his physical welfare. For example, if we have in a big institution a dental department or medical work or other such agencies of health for improving the health of the employe, I hold an employe should be given a demerit if he does not take steps to cure any physical defect which has been pointed out to him through these agencies. Thirdly, I believe that the educational progress made by an employe should also be made the subject of periodic ratings.

Now, finally, as to salary standardization. So much has been said about wage problems in recent years that I hardly need emphasize the complexity of the adjustment of rates and the payment of the proper wage or salary to employes of all grades. The job analysis helps in determining the range of wages or salaries, because it shows the work-content, it gives you a basis for estimating the value of the work, and it divides the whole work of the institution into so many typical jobs.

It is difficult to analyze the work of the institution; even elementary lines of work are quite difficult to describe—there is a factor there of inability on the part of the worker himself to explain to others just what he does do.

The statement of the qualifications should be reached by a consensus of opinion on the part of all those most vitally interested. In our report we have submitted for use and criticism what we call a "Man-Job-Specification," simply emphasizing the two components, the work-content and the human qualification. On pages 354-355 there are two such specifications, one for factory work and one for office employes. We do not claim any degree of finality for this man-job specification chart, and we are quite content to have the qualifications which have been listed criticised by you as incomplete, and perhaps as not appropriate to certain jobs. We submit these simply as a suggestion for your own guidance in working out more thorough man-job specifications in your own institutions. The statement of qualifications, for example, under "character" could be expanded to include many additional qualifications. These are simply illustrative of the method of compiling the specification.

We have also given you a few quotations and selections as suggestive of the method of compiling this chart in your own organization. Those that appear on pages 356-357 have been quoted from a pamphlet published by the Bureau of Labor Statistics in Washington, and you may secure additional information from the Bureau by writing for their analysis of occupation, listed in the bibliography at the end of the report. We have given you samples of job analysis, as we have found it in the different member companies, and I pass these over without any particular comment.

On page 367 under "Factors to be considered," I may mention that this may be amplified almost *ad infinitum,* but the general conditions are the working schedule, the work, and the working conditions, and I urge that you err on the side of limiting the factors rather than extending them to include a great many conditions which it is extremely difficult, if not impossible, to assess.

The chief value of the job analysis is to give your employment department a practical agency for deciding the quality of the human material being inducted into the organization, and on that point I should like to digress to say this. The view has been expressed this morning that there is a difference of opinion as to whether a man coming out of industry would do better in scientific work, provided he could obtain the scientific knowledge, than a scientist going into industry and acquiring a knowledge of the particular working conditions. My feeling is that it is practicable, and generally speaking, worth while, to take a professional employment man—and by that I mean a man who has acquired a thorough knowledge of the problems that enter into employment work—and place him in an organization the character of the work of which he may not know anything about, and then let him work out the problem of selection of the men, rather than to attempt to develop some employe of the institution into an employment man. I think it is in the long run easier to take the specialist and let him acquire the specific knowledge of the institution, than to take an employe of long years of standing who frequently has original views on the subject of his own organization, and is too close to it to get the proper perspective.

In either situation the job analysis helps immensely, because once the job analysis is made of every typical job in the institution, the employment department is furnished with all the material it needs to select the new employes—and I do not imply, in making that statement, that there is no need for a great deal of discussion and cooperation between the employment department and all the others in the institution, because there is; but given the job analysis and a statement of qualifications for the typical positions in the institution, the employment department has the minimum standard for the work which it is obliged to undertake.

That concludes the remarks I have to offer on the subject, and the meeting will now be thrown open to the discussion of this report. Will someone start the ball rolling? This subject is less formidable than it appears.

MR. WILLIAM B. PURDY (Atlantic Refining Company): Is it your idea that the job analysis work should be undertaken by a division other than the one controlled by the employment department?

CHAIRMAN HOPF: It depends somewhat on the size of the institution. In the ideal organization chart, which probably could not be adopted in its entirety by any institution, I should say that the function of job analysis belongs in the division of work standards, the function of which division should be constantly to analyze the work throughout the institution, to set up certain definite standards, and to write standard instructions which would crystallize into the plant manual. These analyses then should be turned over to the employment department for use. In the smaller institution, I see no reason why the employment man, if he is well balanced and thoroughly trained, cannot go out and cooperate with the department heads in the compilation of the job analysis. The only drawback that comes to my mind is the possibility of different standards in doing the work. The employment man should look out for that, and should try to correlate the work that would come to him in relation with the different departments. Does that answer your question?

Mr. Purdy: Yes.

Mr. W. J. Hockett (General Electric Company): I want to ask a question—would you advise using a job analysis in office positions?

Chairman Hopf: Most decidedly; it has been part of my responsibility to do that for some years, and I found it exceedingly helpful. If you will grasp the significance of this fact: that any institution represented in this audience is simply an aggregate of so many typical jobs, and you will understand the importance of analyzing these jobs, deciding just what they consist of. You will find so many overlapping and you will find dual authority existing over the same subject-matter. The lack of job analysis has often resulted in friction, and a good many justifiable misunderstandings have arisen because of the absence of job analysis.

It should really be a continuous process, because when we consider the growth of any business institution, we must realize that changing conditions call for all sorts of adjustments in the different typical jobs.

I said yesterday, and I would like to repeat it, that every individual has a tendency to depart from the scheme of organization laid down; and while the individual in an institution will have the departmental viewpoint pretty well in his mind. it is quite another thing to have the organization viewpoint. The tendency is quite largely to advance the interest of the department at the expense of the whole organization, and consequently we make short cuts; we have what may be likened to twilight zones, we put into our department things which may belong in others, but concerning which there may be differences of opinion. If we are aggressive department heads we pull in a whole lot; if we are retiring in manner, and peace-loving department heads, we let the other fellow pull in a whole lot, and that sort of process is going on all the time, even in well managed institutions.

As the result, any scheme of organization laid down will be gradually forced out of shape, unless you make constant changes, have the organization studies checked up from time to time by this method of analysis, and incorporate the changes on the official chart, which is the guide for procedure in the entire organization.

MISS R. C. SIMS (Swift and Company): What you have just said makes me feel all the more that the employment manager should be doing job analysis all the time, not only so as to master every detail about the job, but to get the atmosphere of the department, so that he or she can feel, when an employe comes to him from this or that department, or a new employe is to be sent to that department, that the employment manager knows the surroundings of the department and the kind of people in the department. Just now we are doing this job analysis in our employment department of Swift & Company, and the immense time it will take for one person to get all the minute details that are necessary, makes it an extensive proposition for the employment person to do alone, and so I cannot help feeling that the employment department should be doing this job analysis work all the time.

MR. T. H. BAILEY WHIPPLE (Westinghouse Electric and Manufacturing Company): In the closing remarks of your initial talk on the subject, Mr. Chairman, you were discussing the question as to whether or not it is better for the scientific man to study the job, or for the man on the job to study the science. Personally, I am very much in favor of industry calling in the scientific man to do certain classes of educational work. I think the scientific man can learn the particular job a great deal easier than the practical man on the job, without scientific education, can learn the science.

Yesterday some industrial man, I think he was from the National Cash Register Company, thought that it was not necessary for this Association to make any strong effort toward getting the big men in industrial institutions to attend these conventions; that these high officials were sending representatives, and that these representatives were wholly capable of effective representation of their several companies. I do not agree with this gentleman. I wish that some of the higher officials in my own organization who really have the power and control were now present at this Convention. I feel this way because I am confronted with the responsibility and task just now, the writing of a course for our Sales School on Advertising, and I am not either by experience or profession an advertising man.

I was a salesman for many years and for the past few years have been engaged in educating salesmen, and while I realize that salesmanship is most intimately related to advertising, yet they are not one and the same thing. Advertising is in many respects the bigger job. I am undertaking this work and fully expect to make a fair success of it, but I am convinced that should we call in a professional advertising man who is not only a professional advertising man but also a scientist, and let him study our particular needs for a course of this kind, that he would perform a more creditable work than it is possible for me to do.

To divert somewhat from the point under discussion, we know that it is quite natural to criticise the practices of the past and the men who worked under the past regime; particularly when we have something which we think is an improvement of past practices, and I have heard a great many slams in the Conventions of this Association against old-school salesmen, and I hardly ever pick up a trade journal nor read a book on salesmanship but what I note disparaging remarks concerning not only the ability but the integrity of these old time salesmen of a few decades ago. Several days ago under an inspiration of indignation over the wholesale injustice to such salesmen, I wrote an article in defense of the old-school salesman. I did not attempt to justify everything about him, because there were too many things that really deserved condemnation, but there were also many things in connection with the old-school salesman which the new-school salesman could adopt with a great deal of profit.

To get back to the subject, industry and the impetus which has been given to the thought, particularly by the rigid training in the Army, I think the pendulum is swinging a little too fast and too far toward this question of the intensification of education. While it was imperative in the Army and while the Army had imperative military discipline and power by which to execute its purpose, yet we in business have not this urgent and imperative need, neither have we the military discipline and power to execute our purposes. We, in industry have to carry out our wishes and plans through persuasion and not by methods of military discipline. I think that the theory has been carried too far and that we are trying to accomplish too many difficult things within a short time. I do not direct this criticism particularly toward my own company, because I think the same criticism applies to practically all companies who are earnestly prosecuting educational work. However, I know more about the subject connected with my own company and for this reason I shall speak with the utmost frankness. Now I am supposed to teach Business English in ten lessons. While it is true that I have only college graduate students to educate, yet there is hardly one in twenty of them who has a creditable knowledge of his mother tongue, yet our schedule is fixed for one year at least and we have to drive it through; and what is the result? It is like using a sprinkling pot on Vesuvius. I believe that we should have reasonable short-cut methods and not make these courses too extensive, yet by going to the other extreme and attempting practically the impossible is, in my judgment, a grand mistake, and I intend to raise my voice against it at every proper opportunity, especially in voicing my sentiments in the great educational institution, The National Association of Corporation Schools.

I think that my company and any other company of equal magnitude and importance would be eminently better off with a course in Business English of forty to fifty lessons instead of ten. Language expression is one of the most difficult and vital of all subjects, especially in its application to business.

President Rowe: We have a fourth section under this general heading of employment problems, "Section IV—To Study and Determine the Proper Relationship that Should Be Maintained Between the Employment Division and the Other Departments of an Industrial Institution," and I will ask Mr. Hopf to close the discussion on his part of the report.

Chairman Hopf: Just a comment on Mr. Whipple's remarks, with which I am in sympathy. I used the words "science" and "scientists"; perhaps I should have said "specialists" rather than "scientists"—I did not mean to indicate by anything I said that there should be an introduction of scientists into a business organization. I should be rather afraid of the results, especially as far as our peace of mind is concerned, but I do believe that the specialist who is an employment man would get better results than the department head or officer who, no matter how good his other qualifications are, has been placed in charge of an employment function without special training in that field. I say that with great respect for certain employment men, men who have come out of their institutions into that work and who have made splendid successes, and have stood by their institutions in the times of great trial through which we have passed in the last year or two.

The comment of Miss Sims I should like to take up in presenting this next report.

Section IV—To Study and Determine the Proper Relationship that Should Be Maintained Between the Employment Division and the Other Departments of an Industrial Institution

CHAIRMAN HOPF: It becomes my duty, in the absence of any member of the Committee on Section IV, to present their brief discussion of Section IV, the plan of which is "To Study and Determine the Proper Relationship that Should Be Maintained Between the Employment Division and the Other Departments of an Industrial Institution." My presentation will have to be in the nature of a critical commentary, because I feel a little bit critical toward the report.

First of all I want to disagree with the caption: "Relations Between the Employment Division and the Other Departments of an Industrial Institution." Those of you who heard me yesterday realize that I am a stickler for these definitions. There is the trouble, we use phrases loosely and do not get very far, and we should be exact in our discussions and in our understanding of different definitions that must come up in this work. I have no quarrel with the reference to the Employment Department as such, but I do believe it would be better to call it an Employment Division, and that employment should be only one division of the wide field occupied by personal relations. I am emphasizing that, perhaps, unduly, because from long practical experience in presenting these ideas to executives, who have to act upon them, and it has been borne in upon me that it is vitally essential to show the place of the whole personnel relations field in industry. This can be done best by making propaganda for the conception that the Personnel Department is one of the big fundamental divisions of the business organization and should be spoken of as equally important with every other fundamental department of the business organization.

Now, that is brought out very clearly in this report, and is a matter for congratulation to the Committee. On page 394 we have it demonstrated graphically. We have the president or executive head of the institution. We have the Personnel Manager, Manufacturing or Operation Manager and the Sales Manager all on the same line, each one reporting to the same central source of authority, namely, the President, and each one, with respect to the other, being neither in the ascending or descending scale of authority. That is extremely important, and every man and woman in this room owes it to himself and herself to aid in bringing that visualization of the placing of the Personnel Department to the attention and consideration of the executives of the institution in question. Until you have sold that idea you cannot exercise your own functions in a manner satisfactory to yourselves and to your institutions, because there will be the overlapping, there will be the excrescences, there will be the *atrophies*. and various other differentiations of importance with respect to individual functions.

Now, you see the extensions on the chart. We go down to the operating functions. Your employment service is one, health and sanitation and safety is another; next we have wages and labor conditions; fourth is mutual interest, and the fifth is education. I am in agreement, substantially, with that subdivision, although I might quarrel with some of the minor titles. Employment service seems to me to be dragging in a word that has been much abused and does not convey a concept of an intelligent character to others who do not know particular conditions in the institution. If we can eliminate that word "service" as perhaps useless verbiage, and satisfy ourselves that "employment" represents the function of acquisition and placement of the best human material in the institution, we will have a satisfactory definition of the field covered by the Employment Division, the first big division of the Personnel Department.

Now, in the Employment Division we have sections. We have our interviewing section, we have our records section, we have our testing section, we have our placement section, and, while it may be a debatable matter, I myself would put in the Employment Division a training section also, meaning that function which helps develop the skill of the individual in the performance of the job. No line of work, no matter how simple, or whether it be in industry or in commercial life, is out of the field of analysis, and the setting forth of the principle which underlies the work may be given considerable expression.

Every line of work can be analyzed into its component elements and a principle set forth, which can be taught to others, and preferably so before they go on the job, and that, to my mind, puts the training section into the Employment Division. In my own experience I have felt it growing on me as a settled conclusion that every line of work has these principles which should be taught beforehand; that it is not alone wise, but also it is good dollars and cents policy to do it, and not to allow anyone to pass through the training school or any other kind of school you have in mind, until he has measured up to the average of the performance of the experienced workers on the job.

Now, the relation of all that work to the conditions of the organization is one of service, to be sure, but it is also one of operating connections and one of constant study of the conditions in the other fields. The personnel division must know the problems of production, the particular conditions that exist in the Distribution Department, and also those problems that are connected with accounting and finance and administrative work.

I do not urge that the Employment Division is the one which should go out and make itself so familiar with the conditions in the big department as to be able to perform job analysis, because that is throwing too much of an emphasis on the function of acquisition, and I think better results are obtained by taking a particular type of men who can deal in exact analyses. My estimate of employment managers and those associated with them is, that while they should have a degree of imagination, which will enable them to select properly, it is not necessary to have that power to the extent where they can do job analysis. I can see the expediency of placing job analysis in the Employment Division, where we have individuals capable of doing the work, and I base it on that rather than upon the general wisdom of the assignment.

The other portions of the Personnel Department I shall go over very briefly. The thing which interests me particularly is the field of "mutual interest," which I judge to cover that vaguely defined field which we call "welfare work." "Mutual interest" is a good definition of what welfare work should be, namely, all that work that is to the mutual interest of employer and employe, but in practice it is quite a mouthful to say—"I belong to the mutual interest division of so-and-so." "Welfare" is a term much more easily applied, but perhaps "personnel service" might fill the bill as well. I have not any pronounced convictions on that score, but I do have a conviction that "mutual interest" work should be based on a dollars and cents policy, and not on a feeling that we have got to befather and bemother all the people that come into our institution, and have even to do their thinking, and attend to all of their daily functions for them; that we have got to guide them carefully and feather their nests for them. I think the dollars and cents policy should control in this as in every other line of work.

This matter of welfare work or mutual interest work is continually affected by the changes which are taking place in any given institution—the labor conditions may change or the educational conditions may change, and it is different in each business institution, depending on how the problems have arisen, and what emphasis needs to be placed upon these problems. You may understand, for example, that one institution, of which I have knowledge, grew very rapidly from 150 employes to over 2,500 employes in two years. In such case there is a very great problem of education, because the rushing in of all these employes has taxed the organization to such an extent that the training by department heads of their subordinates had to be limited to just the necessary daily instruction to the employes in the performance of their duties; therefore education looms large, and training as a function to be performed before going on the job has had to be altogether neglected.

The report covers under the heading "Coordination of Employment Department Functions with Those of Other Departments," first, the getting of applicants; second, the selection of applicants; third, the matter of transfer, and fourth, individual complaints, and in that paragraph 4 the following reference is made: "All matters having to do with general complaints or policies will be considered by the Department of Wages and Labor Conditions," and no other reference is made to that department. I am not clear as to whether the author of the report intended to regard that department as a separate one, because that is not quite clear in his definitions. If he regards it as a separate one, I respectfully beg leave to disagree with him, as I think all that work belongs in the division of the Personnel Department, which will be coordinated with the other divisions of that department. If the Personnel Department is not large enough to have a separate division devoted to wages and labor conditions, then a separate committee should be appointed to set up standards and devise policies. It is sound organization to have our executives state the policies and administrators carry them out, and to have specialists and the advisory officials give the executives advice with regard to these matters.

The provision in Paragraph 5, under heading "Dismissal of Employes," seems to me to be rather drastically phrased. It reads as follows: "All employes should be dismissed through the same source as that through which they are hired." My judgment is that the function of dismissal should be one performed by contact between the Personnel Department and the particular department in which the cause for dismissal arises—I am not arguing that the authority of the department heads should be restricted; he should have pretty general authority, but no dismissal should be had without reference of the case to the employment division, so that it may study the cause which gave rise to the dismissal and have an insight into the management of the department where the dismissals arise.

PRESIDENT ROWE: I am not going to make a speech. I want to leave one thought with you in connection with this admirable group of papers. I am going home and I will read these reports with much more interest than I likely would have read them before I came here, because they contain the germs of a great study for me, a great development in the broadening of my own views, and I am making this point in support of the point that I dwelt upon at some length in my address the other evening—that we should study with more care these magnificent reports that are submitted to our conventions, and which are distributed among our members, and that really the best good that we can get out of these reports is to study them thoroughly, after the conventions; although we delight in the presence of the speakers, we delight in the associations we have here, we delight in the facility with which this one or that one expounds his theories; in other words, we like the personnel of our association, yet, after all, the best good we will get after we get home will be from a careful studying of these reports. They are something we can keep and will not lose.

When I took up the Convention Program and hurriedly ran over it, I saw there was to be a report of the Committee on Employment Problems, and that the first division of the report related to Labor Turnover, the second to Psychological Tests, the third to Job Analysis and the fourth to Relations to Other Departments. Now, I misinterpreted entirely that phrase, "Job Analysis." I have examined and O. K.'d a good many job analyses in my business career but that type of job analysis that consisted of dividing the order or job into its component parts, ascertaining and determining and selecting the materials, size and all of that sort of thing, in other words, making a graphical sketch with a detailed statement of the order as it was to be executed in the plant. That was my idea of job analysis, and I thought the author of the part of the report on Job Analysis was going to refer to that. Instead, I find he has made a job analysis of the man who is to do the work instead. So you see we get many angles from these thoughtful men of the same idea applied in many directions.

These remarks that I have made are nothing more nor less than a plea for a careful study on the part of our members of these reports which are submitted at our convention. It is as important that we follow up our studies at the close of this convention of the reports which have been submitted here, as that we should begin our studies at the time we prepare for the meeting, and in this following up of the broad development of industry and the methods pursued in industry, which are disclosed in these committee reports, we will get the best results from our membership in The National Association of Corporation Schools.

Chairman Hopf: We shall be delighted to be guided by the words of wisdom of our esteemed President. Just a word on Job Analysis. Our President, Dr. Rowe, evidently has in mind Standard Practice Instructions, when he refers to the way in which operations in his institution are being performed, and I will point out that Job Analysis and Standard Practice Instructions are two different things.

A Delegate: I trust I may be pardoned if I am inclined to disagree with the idea that the training section or department of schooling, or whatever you may call it, should be placed in your Personnel Division. I think there must be exceptions to that rule, and I know that there is one exception in my case, for I have a department of some eleven hundred or twelve hundred persons, with a payroll running from $100,000 or $126,000 a month. I do not believe the employment manager wants that duty put on to his already heavy burdens. I feel, however, entirely separate from my own situation, that in the case of your Training Department or your school, you have got a separate and a highly specialized job, a job that requires the individual attention of one who is competent to fill it, one who is—I am going to use a term the President does not like—an educational engineer. You have not heard that before, but you will hear it in a few years' time.

We have in the training work a job that is entirely distinct from employment. The Employment Department must provide the Training Department with men, and the Training Department must train the men, and at least in my own conception of the work, must train the men definitely in the requirements of the job. You cannot train workers and train them to the best advantage by putting them in a class somewhere for two or three hours a week, and letting them run loose on the job after that.

President Rowe: There being no further business the meeting stands adjourned.

SEMI-SKILLED AND SKILLED WORKERS

THURSDAY MORNING, JUNE 5, 1919.

VICE-PRESIDENT KINCAID, *Presiding*

VICE-PRESIDENT KINCAID: Gentlemen, the first part of the program this morning will be the report of the Committee on Semi-Skilled and Skilled Workers, and the chairman of this Committee is Dr. A. J. Beatty, who will preside and present the report, after which we hope to have some time for discussion. I take pleasure in presenting Dr. Beatty, Director of Training of the American-Rolling Mill Company.

CHAIRMAN BEATTY: Gentlemen of the Convention—I dislike very much to start with an apology, yet it seems necessary for me to do so. Mr. Waller, formerly of the Goodrich Company at Akron, has been chairman of the Committee during the greater part of the year, but circumstances made it necessary for him to resign as chairman of this Committee before any report had been formulated. I do not know whether Mr. Waller resigned because he thought his Committee was no good—but, at any rate, he suggested that I be named as chairman of the Committee. The question as to my acceptance I referred to my superior officer, and about a month ago I was advised that it would be in order for me to accept the chairmanship, which I did, but because of these various circumstances and delays there is no committee report.

Now, as to the things that may valuably be discussed, it seems to me there are quite a number we can talk over here this morning, and get some information out of it, for they are very much worth while. The world has moved a long, long way since our Buffalo Convention, two years ago. A great many things have been done which, five years ago, or even two years ago, we would all have agreed could not possibly be done. The war and the conditions growing out of the war have challenged industry, have challenged every organization to do things which nobody assumed, and nobody believed, could be done.

Our industries all over the country have done the impossible in manufacturing munitions, in meeting conditions of labor, in meeting conditions of training, that have never come up before. So we have an entirely new situation facing us now in the matter of training skilled and semi-skilled labor.

We have been going along in a fairly well-beaten path for years, assuming that it would take from three to five years for any man to learn a skilled trade, but we are told now by people who have had the experience that it is not necessary to spend that much time in learning a skilled trade. Our country is filled with men, who are scattered all over the country, who have been taught in short intensive courses to operate lathes, milling machines, grinders, etc., and the question arises whether the system of training which has been in vogue in training these men for this type of work has anything in it, any contribution or idea that would help us in the training of our skilled men in the days to come.

So there are a lot of questions involved in this subject which will need to be answered, and if this Committee on Skilled and Semi-Skilled Labor can get your assistance in sorting out the wheat from the chaff of what has been done in this war training, if we can formulate out of all of this new system something of a safe and sane program that may be used as our guide and training in the future, I feel that the Committee will have served a splendid purpose.

So that is the thing I should like to have you help me out in here this morning. Let us talk over some of these things that are the outgrowth of the war, and compare experiences, and see what experiences are valuable and what are not.

I have jotted down a half dozen questions here which I would like to have discussed. The first is this:

What will be the effect of the short unit war training courses upon our longer apprentice courses? (a) In length, (b) in content, (c) in method.

I asked that question first, but I am not going to ask you to answer it first. Just save your answers for a minute, and think it over, so that you can give us all the information possible in the discussion which is to follow:

I have another question:

What has been your experience, since the cessation of war work, with war-trained mechanics? Are they efficient? Do they adapt themselves readily to other jobs?

I have talked with several employment managers, who say they are having a great flood of men coming to them for jobs, claiming to be lathe hands, and milling machine operators, etc., and the first question they put to them is "Where did you get your training? Are you simply war mechanics?" Now, I believe we can have a valuable discussion on those two questions I have presented, for a little while. Have any of you had experience with these war-trained mechanics, and if you have had, will you give us your experience? The subject is now open for discussion.

MR. HARRY H. TUKEY (Submarine Boat Corporation): I have had experience with the war-trained mechanics—I have had a large amount of experience with those we have trained, and we have had a considerable amount of experience with those trained by other shipyards. This is in the shipbuilding industry alone. As you know, I represent the Submarine Boat Corporation.

Contrasting the shipbuilding industry against the munition industry, I think this situation exists, based on what study I have made of both sides—in the munitions industries there was a tendency to train an operator to turn out one part of a shell or gun, and in the airplane construction the same tendency was in evidence, of training an operator to turn out one part of an airplane or an engine, and likewise in the machine shops an operator was trained to perform only one small part of the job—he might become a milling machine operator, but familiar with only a few phases of milling machine operation.

We have had in the shipbuilding work an entirely different situation, which required a longer-term training period and an all-around experience in a given branch of shipbuilding work. For instance, if we set out to make a riveter, we made an all-round riveter. We have had men who have come from other yards where the standards of training were different than our own, and these men have fallen down on our job. They have been put back in our training department, and have been trained to our standards of speed, quality and versatility. I suppose other concerns have had the same experience, because it has been a shifting process, wherein men who were trained in one shop would go to another shop to work, and their previous training seldom fitted well into the new job. For this reason, as I say, it was necessary for us to put many of these men into our own training department. I do not know if that gives a contribution to this discussion in the way you want it or not, Mr. Chairman.

CHAIRMAN BEATTY: The main thing I had in mind was to bring out the question as to whether war-trained mechanics do fit into ordinary industrial plants sufficiently, whether their war training will carry over and make them better men and usable men in our shops.

MR. TUKEY: My answer to the question would be yes—that a foundation is given which makes them more usable men; they have a foundation upon which you can build, but I have found, in the case of the machinist, that he is very far from being the all-around machinist that one would like to employ, and I quite agree with your previous statement, if I may make it at this time, that by the intensive method under which that man was trained, the same training in a *series* of operations will bring that man to a high degree of efficiency in a much shorter time. The intensive training received under the war conditions should provide the foundation and the method. That is what I think we can carry over into the peace time period from the war period.

MR. SYDNEY W. ASHE (General Electric Company): I had the privilege of being Chairman of the New England Section of Industrial Training for the War Emergency Board of the National Council of Defense for five or six months during the war, largely during the period of the organization of that work. A great deal of the work we did in the New England territory was used by the Department of Labor, by Mr. Miles and others, as a nucleus to work with in this war training work with many of the industries throughout the west.

I was brought intimately into contact with this whole matter of emergency war training, and naturally the question came up a good many times as to what was going to be the ultimate outcome of this training, and how it was going to affect our standard apprenticeship course. I do not know that we need to have very much fear as to any effect being produced as a result of all these things but that is very wholesome and very instructive to industry as a whole.

There is a very great need in this country today for the continuation of our standard apprenticeship courses. While the public schools and industrial schools, as our friend, Dr. Rowe, has pointed out, are doing a very creditable work and very excellent work, there is a very distinct need for the standard apprenticeship courses, because the great weakness of the whole country today is our lack of thoroughness. I think that we all recognize that, if you take a young man or a young woman, as you please, about the ages when they are most receptive, you put them into a shop where they are trained in mechanical trades, and given a thorough school education, and besides that they are made skilled mechanics—not ordinary mechanics—but mechanics which will be a delight and ornament to the trade, highly skilled mechanics, you are doing the finest thing you can to those young persons. There is always going to be a great need for them, and we need have no fear of this-so-called vestibule school training course interfering with that work in the slightest degree. We might abbreviate our courses a little bit, but the thing we should do, more than anything else, is to improve the quality of the course, rather than to change the old standard of apprenticeship course.

On the other hand, there is also a very great need for this short course training which was started during the war, and we ought to continue that work. In all kinds of manufacturing there is certainly a decided need for training everybody who goes into industry before they are put into the shop. There is no need for my pointing out the advantages of that, as I believe they will be appreciated by you all. The employes come in and you sift them and make studies, and give them preliminary instruction before you assign them to specific tasks. There will be always a large number of simple tasks in manufacturing which should be done by someone, and if a few machines are put in the training room, and the people trained on those specific tasks before they shall be put into the shop, and they are taught the processes of the work, and are given the right attitude towards the company, and you bring up their efficiency—there will always be a great need for that work; not only is the need for that work apparent in the case of the newcomer who comes into the factory, but also for the individual who is transferred from one department to the other. You can use that training room to instruct these people, the so-called vestibule school, if you please, and if you do not want to call it a vestibule school, you can use the other French allocator system, where the training is done on the floor. There is a need for it, and the whole effect of this training has been a very good thing.

You would be surprised to know up in New England, where they have always had a reputation for doing a great deal along educational lines in industry, what a small percentage of real good, first-rate apprenticeship schools we found during the war, and you would be surprised to find the large number of manufacturers who are doing nothing in educational work. It was difficult to convert some of these people to the needs of putting in these training schools. When they started they did not understand what a splendid thing these schools are for industry, and how great the need was for educating their employes to render efficient service.

I think the whole effect brought about by the war for these short-period courses, and the need for more thorough work in the apprenticeship course, cannot do anything but result in good, and the men who have had some training in these courses fit fairly well into other tasks, because you have broken the ground, you have laid the foundation, and we have gotten the right kind of response towards educational work. I think it has been a splendid thing, and yet in all of this industrial educational work, as I have said so many times, we have not even scratched the surface. It is a tremendous field, and the one thing we need more than anything else is to get all of those interested in industry to study the situation, and if we can get a great many of these people studying this problem, and get the proper viewpoint developed, we will get a good many of the highfalutin ideas out of their heads, and the atmosphere will clear very quickly, I think.

MR. STEWART SCRIMSHAW (Industrial Commission, Madison, Wis.): I have the privilege to be connected with the line of work that will throw some light on the subject under discussion, I believe. I am connected with the Industrial Commission of the State of Wisconsin, and the work I do takes me into scores and scores of manufacturing and industrial plants.

You all realize that a few years ago the realization came to the manufacturers of this country that the specialization in industry was coming at such a terrific rate that something had to be done to enlarge the educational program for the workers in industry. That is how our apprenticeship system was revived in its present form throughout the country.

The State of Wisconsin passed a statute governing apprentices—it wanted the manufacturers to get away from too much specialization, and obtain some of the benefits which come from all around, general training. In this country we have adapted our machinery and industry to accommodate unskilled labor from Europe instead of improving and educating our labor. In other words, we fitted the industry to the men instead of the men to the industry. Today we are turning around and are beginning to fit men for industry.

In this matter of intensive training the question at issue is one of method. If short, intensive courses take the place of more general education and more general training, in my judgment, these courses are vicious. They are putting us back into the same place where we were some years ago, when we began to realize that specialization was a bad thing when carried to an extreme. I have frequently said to manufacturers with whom I have had to deal that the short, intensive course is a fine thing for the fellows who have already entered the industry without much training, but when this intensive method is introduced to take the place of all-around training for the youth, then something is wrong. Let us see that the training of the youth of the country, as one of the previous speakers has said, is brought to a high level. Do not try to cut down the quantity of the apprenticeship system, but improve the quality of it, get better instructors, and then you can use the intensive courses for the adults in the factory with a great deal of success.

Suppose with these intensive, short, efficient training methods you take a sixteen-year-old boy and make him, in one year, a presumably competent mechanic; can you not easily see that it would mean that this seventeen-year-old boy is thrown into industry beside a journeyman, and is presumed to do the same amount of work, and carry the same responsibility, and be under the same pressure as the journeyman adult? I ask you, is it desirable to turn a boy out at that early age, and put him beside a journeyman, and make him bear the burdens of industry, and work at the same rate of speed as the journeyman? That is what this intensive course means, if you apply it to the youth of tender years. This is a matter of social concern.

We must realize that intensive training is all right in some cases, but do not let us get back in the same place we were years ago by taking the young boys and putting them through a special course and turning them out to be subject to the forces of industry, the evils of which we have already seen and talked about.

CHAIRMAN BEATTY: The last speaker's discussion leads to another question which I wish to place before you, and it is this:

(A) To what extent is it desirable for all machine operators to be all-around machinists? (B) Is the journeyman machinist to become an extinct species?

I would like further discussion on any of the topics that have been presented by me.

MR. TUKEY: The previous speaker mentioned that we must not bring the apprenticeship course down into one year, that we must not intensify it too much.

When we speak of war training, or of the intensified war training, we think in terms of time. I wish to say that one cannot learn in terms of time. That is one of the greatest faults of our educational system at the present time, in my belief. We say that an apprentice should serve four, five, six or seven years. We say he must take so many years to learn a given line of work. It does not matter a "continental" what that boy does in that time; he *serves* his four years' *time,* and gets a piece of paper, and is called a journeyman. It was that situation which I had in mind. I do not think we should talk of the thing in terms of time alone. A four or five year apprenticeship can be condensed into a year or two—I know, because I have been on the bench, I came up from the bench, and served my apprenticeship, have put in twelve years as a pattern maker, and have successfully applied the condensation in other trades.

Analyze your own experience if you have worked on the bench. The first year you put in half of the time sweeping the shop and running errands, and the other half of the year you were given small jobs, and when you learned how to do these jobs you were kept on them; and so it went for the four years' time. A trade must be learned in terms of the jobs that a mechanic is required to do in that trade. A mechanic qualifies upon his ability to do a certain number and certain kinds of jobs. One must lay these jobs out in some kind of order, and put the learners on these jobs in that order—I do not care who he is, whether he is a bright boy, or a boy not so bright, or a man or a woman, put your learner through these jobs in a regular order of learning difficulty fom the simplest job to the most difficult, and have the learner master each of these jobs, regardless of whether it takes six months or six years. In that way you will produce qualified mechanics by the apprenticeship system, the terms of time being cut out entirely.

As the gentleman from the New England section mentioned, there must be some of the intensive training. There are certain branches of industry that always will be specialized. Intensive training, again speaking of the war emergency training, will be carried over from that period, because there are certain branches of industry which will require short, unit courses. The need for this will appear in all types of business—in the machinists' trade, and in all mechanical lines. It is so in the shipbuilding industry, and in many other industries. We will have to conduct both courses in the shipbuilding industry. In order to train the all-around shipbuilder, we will have to have the apprenticeship courses, but we will find it necessary to have as well the intensive courses, used to train men as riveters, chippers and caulkers and other specialists. Neither can supplement the other; they are two entirely distinct lines of work. That, I think, will take care of the question—Is the journeyman to become obsolete and the specialist to take his place? Absolutely, No. It will be necessary to have both the specialist and the journeyman. A mechanic should be judged in terms of the jobs he can do, and if he is a 100 per cent man, according to the standard set, then he should receive the credit, whether he is seventeen years old or seventy years old, and not until that time.

CHAIRMAN BEATTY: The question arises with me, whether, if there is a short method to a good job, to become a master of a job, rather than a tradesman, will not that effectually put a damper upon our younger fellows entering the apprenticeship courses. If they can attain the same place so far as pay is concerned, by taking a two weeks' or two months' intensive course, what argument will we have to induce them to take the three or four year course?

MR. SCRIMSHAW: I can answer that question directly. We might as well be frank about it. Where there is a specialized training course in the factory, it is hard to induce boys to enter the usual apprenticeship course. We have concerns in Wisconsin where they have the short, intensive course; where they enable the boy to make advancement quickly and to secure a good wage. In those concerns you cannot get the boys to take the regular apprenticeship course with any degree of success.

I do not think Mr. Tukey understood my previous remark. He said we should not measure the progress of the boy entirely in time. In one way I agree with him, but in another way I don't. Of course, in one sense it is a question of time, and in another sense it is a question of how much education you can impart in that time and how well the apprenticeship course can be administered, so as to give the boy the maximum benefit from his instruction, and then you will have a lot of people in industry you can count on for efficiency and who will be reliable workmen.

If you concede that a boy between the ages of sixteen and twenty, is a youth, and you must, you will recollect that he is a minor. The question is, should not we see, for the benefit of the nation, that these boys and girls who are minors and wards of the State, get all the education and training that it is possible to give them? I would say, in disagreeing with the gentleman on this proposition, that if a boy can learn a trade, any particular trade, such as he specifies, in one year, then I would say there is something wrong with that trade, that it is narrow, and that such a boy should receive a more general education even for the benefit of the industry. We should increase the number of machines or processes in which he should be experienced. Put him in one department, then another department, and still in another department, and so on, and give him all the training you can during the years of his apprenticeship. You cannot make the proper kind of a journeyman of a boy at seventeen years of age, because it is physically impossible. Moreover, you must give these boys all the training that is necessary to make them good citizens as well as good workmen. I do not like to see a boy seventeen years old working alongside of a journeyman as a journeyman—it does not seem right to me.

Mr. Tukey: I just want to correct my own remarks a little bit. I took the age of seventeen years, as that is the age to which the previous speaker referred. Mr. Scrimshaw made reference to a boy of seventeen years being a journeyman. I do not think this would be good logic at all; it is nonsense to think it is desirable to put a seventeen-year-old boy in the shop as a journeyman. As a matter of fact, my real thought upon that phase of the situation is that we should have laws of some kind, the burden put upon the State, which will keep our youth in the schools, where they belong, and where they should get a liberal education, until they are seventeen or eighteen years of age; that statement is radical, I know; schooling should continue until at least sixteen years, and preferably eighteen years of age, perhaps serving the last two years in a continuation school. The place for liberal education is in the school system.

After that I think it is highly desirable for industry to take that eighteen-year-old boy, if we may set the age at eighteen—after the educational institutions have done their best with him, and then put him through our apprenticeship course, but absolutely not in terms of time. You may set your goal as to what will be required, what will be expected of them. You may set it as high as you please, set it according to the highest requirements of your industry, but do not put him through until he has got it all—do not say it is a one, two, three, or four or five year course; you do not know; it may be a two year job for one boy, and a one year job for another. You cannot tell. The time it will take varies with the boy. I find that is true of our own industry, that the time it takes to learn what we want learned varies with the capacity of the individual.

MR. EDWARD S. COBAUGH (Midvale Steel and Ordnance Company): There is only one other concern in the United States that does the work that we do in the Midvale Steel and Ordnance Company, namely, build sixteen-inch guns for the United States Navy. I am as proud as a peacock when I walk through our shops and meet a young journeyman who served his four years in our apprentice course who is turning out shrink fits up to diameters of 56 inches, which must be turned to an accuracy of within .001-inch, for if not, the inspector turns the work down. I also see them working on the breech mechanism of the same gun, which must be just as accurate.

I remember in 1902, on our first order of 8-inch naval guns, when I went to the master mechanic and showed him parts of the mechanism that was machined to within perhaps .002 of an inch of the blueprint. He did not know much about building guns those days, and he said it was near enough to let it go. When we came to assembling the gun, there was no chance of making that mechanism work, because each part was not absolutely accurate.

I believe this special intensive training amounts to nothing so far as our apprenticeship courses are concerned. When the war broke out, we went all over the country, established bureaus in hotels, and advertised for men, and had the men come from everywhere, and we took on 8,000 men in a short period of time. Since the day of the armistice we have laid off 8,000 men—not the skilled workers, but the handy men. I recall a man who was a gardener for a millionaire in a suburb of Philadelphia. He was put on the job of turning the copper band for the projectile. He was given a rate and was told the rate would not be changed, no matter how many he turned out. He earned as much as $145 a week, worked three weeks, and rested the fourth week. He kept on drawing big money until the contract was completed, and then went back to take care of the greenhouse for the millionaire again.

I believe in four years of specialized training and encouraging the boy in every way we can. I recall one boy who came to our plant and "fell down" on the entrance examination. I took him to the master mechanic with an average of 45, and the master mechanic wrote across the paper with a red pencil—"No." I interviewed the boy and found his father died before he was born, and the fifth grade in the public school was the completion of his education, and then he had to go to work to help support his widowed mother. I went to the master mechanic and said: "I would like you to give me permission to give this young fellow a chance." I can take you to the Midvale plant tomorrow morning, introduce you to that very same boy, who is one of the finest mechanics in the shop, and every man who has had anything to do with him is proud of him, and I am proud of him. I tell you, we can do the job, if we want to.

Mr. R. F. Carey (Westinghouse Electric and Manufacturing Company): In regard to the matter of time, we all agree that four years in a primary school is not enough, and that four years in a high school is not enough, and yet, in the case of a trade apprenticeship, we limit it to four years, because that is what we believe is the average time in which he can produce a good, thorough mechanic. The gentleman from the Submarine Boat Corporation says time is unessential. We give the boy less than a four years' course and turn out an average mechanic, or we give the boy a full four years' course and turn out an exceptional mechanic. The time is important, and we would be doing the boy an injustice if we limited him to a less period, and turned out an average mechanic where the longer course would make him an exceptional mechanic.

I do not believe that our friend from the Submarine Boat Corporation realizes the proposition that the general manufacturer is up against. It is an entirely different proposition to teach a man to push a lever, or to operate an automatic hammer, or to teach a boy to use a machine tool, not only to within .001 of an inch, but even finer than that, and to have to use a micrometer in order to tell that he is accurate in his operation.

Under no condition whatever would a boy on the apprenticeship course of the Westinghouse Electric and Manufacturing Company have to learn to use a broom. If he gets that instruction at all, he gets it at home.

Not one minute of the time he is working on the apprenticeship course is spent in doing what you might call lighter work, such as sweeping out the shop, going around with messages for the foreman or any other similar operation. Every minute of his time is too valuable to us and to himself to be used in any such occupation.

CHAIRMAN BEATTY: Our time is flying, and I would like to inject another question at this point.

Would it be advisable to have a man, presumably attached to the Betterment Department, whose business it would be to go around through the shop, looking for men who are working awkwardly, clumsily, and inefficiently, and take them off the job, and send them to the training department to get adequate training? I do not know that anybody is doing that, but I would be glad to have your thought on that question.

MR. C. P. DAVEY (The National Cash Register Company): We are doing that and have done it for the past year, but do not do it through a vestibule school. We believe in a department school more than a vestibule school. We do the training right in the department. We have eighty instructors throughout the factory, each man a skilled mechanic in his own department, and when he finds a man doing his work inefficiently he trains that man to do it efficiently provided the man wants to learn to do the work efficiently.

Mr. Tukey: It strikes me that that is a foreman's job.

The foreman should be educated to the value of the school. If he has inefficient workers, or clumsy workers, it is his job to know it, and rather than to train them himself it is his job to send them where they will be trained. I do not think the Betterment Work can take care of it properly, as there are so many departments that it would be necessary to have a master mechanic to judge the merits of workers in each of these departments. We carry out this plan by the foreman reporting that he has a clumsy man, a man who is not working efficiently, and this man is sent to the training department for further training. We receive approximately, I will say, from twenty-five to thirty of these men a week.

Mr. Davey: I do not believe it is the function of the foreman to instruct inefficient workers. I believe the function of the foreman is to go ahead and carry out the executive part of his job. To have him instruct inefficient workers is taking his time from the most important part of his job, which is getting production.

Mr. J. J. Garvey (Western Electric Company, Inc.): I think the plan you have suggested is a poor substitute for the real way of doing. I agree with the gentleman who has just spoken. The foreman has something else to do besides training his personnel. I can only see one way to do the thing, and that is to put the man in the shop and train him properly on the start, and see that you do not have a clumsy or inefficient man working on a machine.

There should be a man in every shop whose business it is to get in touch with these things, take care of the men who come into the shop, train them properly; if he cannot be made an expert in the work done in that shop, put him out of the shop, and put him where he can be made an expert. This other plan does not seem to me to be the thing.

President Rowe: I am the fellow who does not know. I do not pretend to know as much about the questions you have been discussing as some of those present evidently know. However, I have observed that running through most of the discussions of this apprenticeship problem more attention has been given to the employer's side of it than to the boy's side of it. It must not be forgotten that when a young man comes to you and enters into a contract to take an apprenticeship with you, he is going to perform something he does not know much about; and that you do not know much about his ability to perform. When the student comes to school he in almost every instance subscribes to take a course of study while he does not know anything about the course. If he had, perhaps he would not consider taking it for a moment, and in some instances he would have no need to go to school for that purpose at all.

There is a moral obligation resting on you men discussing this question which I seldom hear anything about. I believe you are carrying it in your mind, but I do not hear anything about it. Someone said during this discussion that four years for the primary grade and four years for higher primary grade, and four years for the high school grade, to cover the studies in those various grades, etc., is not enough. That period is not enough, if you leave in the course a lot of things which have no business there, but four years is enough if you will utilize properly that period of time.

Now, it is not true that we put a student into a high school and compel him to stay four years before he can graduate. That is true no longer. It is not necessary in many of our higher schools that a man must remain for a certain amount of time, predesignated when he enters, but he is permitted to graduate, because we have taken into consideration his side of it, and he takes it into his own hands if you do not, and he is permitted to graduate when he is qualified to graduate. When he accomplishes the task that is set before him, and is competent to do the work required of him, that young man has finished his job of learning.

What is the use of keeping him eight years to learn how to do a job he may learn in two years?

There are a lot of manufacturing establishments—and I know what I am talking about, because I have been around among them, and questioned their managers, to find out for myself—that want to make a good part of their money out of the unpaid earnings of their apprentices.

In manufacturing establishments with which I have some identification and some interest, this same question of pay has come up more than once, and I have fought that proposition generally—I have fought in favor of the proposition all along, just as soon as the boy is capable of doing the work that is required of him to do in a certain job, that man is entitled to full pay, and it does not make any difference whether he is eighteen years of age or eighty years of age.

I hold the same position exactly in regard to women—we have no right to take women into our establishments to take the place of men we formerly paid $100 a month, and pay the women $50 a month. Right on this question—I am touching the ethical side of it—some of you gentlemen at the next meeting come in and talk about the boys' side of this problem a little more, and it will please some of us better.

CHAIRMAN BEATTY: The time for this discussion is ended, and I thank you for entering into this discussion so heartily. I think one of the good things that have grown out of this discussion is the apparent agreement with the statement that the apprenticeship courses must remain intact as they have been. Further, that the short, intensive courses which have developed as the result of the war situation do contribute a great deal to our methods of handling our training work. They point out the necessity of properly analyzing the job which we are going to teach, and then having it properly analyzed, to teach it in a pedagogical sequence—pardon the use of that word, but there isn't any better one.

So I believe that the suggestions which you have made will form the foundation upon which this Committee can, during next year, develop a report which will be valuable, and if we call upon you during the year to help us with advice and suggestions in making out a worth-while report, I hope you will respond promptly and willingly.

VICE-PRESIDENT KINCAID: The meeting will now take a half hour recess.

COMMITTEE ON UNSKILLED LABOR AND AMERICANIZATION

MR. J. E. BANKS, *Chairman*
AMERICAN BRIDGE COMPANY
Ambridge, Pa.

MR. C. S. COLER
WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY
East Pittsburgh, Pa.

MRS. CAROLYN S. DAVISON
INTERNATIONAL HARVESTER COMPANY
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MR. GEORGE B. FOUT
YOUNGSTOWN SHEET & TUBE COMPANY
Youngstown, Ohio

MISS MARY B. GILSON
U. S. GOVERNMENT ORDNANCE OFFICE
Pittsburgh, Pa.

MR. O. W. JUNEK
THE B. F. GOODRICH COMPANY
Akron, Ohio

MISS MARGARET REISCH
THE AMERICAN ROLLING MILL COMPANY
Middletown, Ohio

MR. OSCAR C. SHORT
THOMAS MADDOCK'S SONS COMPANY
Trenton, N. J.

MR. GUY VIA
NEWPORT NEWS SHIPBUILDING & DRY DOCK COMPANY
Newport News, Va.

MR. ALFRED H. WYMAN
CARNEGIE STEEL COMPANY
Pittsburgh, Pa.

THURSDAY—MORNING SESSION

UNSKILLED LABOR AND AMERICANIZATION

THURSDAY MORNING, JUNE 5, 1919

VICE-PRESIDENT KINCAID, *Presiding*

VICE-PRESIDENT KINCAID: The next business on the program is the report of the Committee on Unskilled Labor and Americanization, Mr. J. E. Banks, Chairman of the Committee, who will present the report and preside during the discussion on the report.

MR. J. E. BANKS (American Bridge Company): Gentlemen—We have had several meetings during the last four years, in cities in the East and in the West, and each year each member of the committee has been set to do something, and almost always the member has done the work assigned to him. I wish to say that is speaking well for the quality of the committee—and a little bit, even, for the Chairman of the Committee. (Applause.)

The field of our work is the foreign-born and the negro—they who have not had the advantage of a primary education and training. We have the most to do with these people of any of the committees that you have in the Association. I do not even know the number, but it is estimated there are probably, in connection with the industries represented here, somewhere around a half million or so of such employes. There is a hesitation on the part of industry to undertake educational work among them. Industry is inclined to ask help of the public school, or the Y. M. C. A., or some other organization, rather than do it themselves.

Now, it is easy to get our primary educated American-born employes interested in apprentice work, that is a natural thing, easy to get them interested in almost any other line of training that we have in connection with this organization, but it is not easy to get the foreign-born to take an interest in these things.

There has been a drawing of the line, more or less, between the work of the public school, especially in connection with

Americanization, and that which industry shall do. There is a considerable difference between the handling of the training of the foreign-born by the public schools, and the training of the foreign-born by the industries. As far as I know, the best success has been attained where the industry has taken over entirely the handling of the teaching of English to its foreign-born. The public school cannot do anything more than start the teaching of English for industry, and you might as well realize that.

One of the important questions is—How can you interest the ordinary school teacher in this work? How can you teach them to know the vocabulary, and the spirit and influence and arrangement of your factory, and have them be able to get that knowledge into the mind of the foreign-born student in the public school, who works for you, as it should be done? You have of your own personnel women also who may prove exceedingly valuable in this work of teaching the foreign-born. Women in general have more natural acumen, or intuition, in this line than most men have. Why not use the people that are in your industry, officers and employes, men and women, who seem to have the ability that is required for it? Use them, and yourselves build up this system of teaching which is so important a part of your industry, and carry it out in the way it should be carried out.

You would not give to anybody outside your company the care of your machines and the development of your material. If you had to have work done by a chemist, you would do the work through the medium of the force on your payroll, if you had a chemist on your payroll, or otherwise you would employ one specially for the purpose. The human material, mentally and physically, is far finer than any machine you have, and why should you relegate the development of that to other agencies, when you cannot well know how it is being conducted by them?

This is a serious proposition which is facing our industry and we should tackle it ourselves and carry it out in a way that shows we appreciate fully the responsibility of the things resting upon us, and we ought to undertake it in a largeness of spirit.

I would like to hear from Mr. Coler, of the Westinghouse Electric and Manufacturing Company, on this subject. This is the first year he has not been able to do all we wished him to do, but he has been a large element of the success in the work of the Committee since it started.

REPORT OF COMMITTEE ON UNSKILLED LABOR AND AMERICANIZATION

INTRODUCTION

During the past year more matter has been printed on Americanization, and probably more work attempted, than in its past entire history. The needs of the Nation, and its possible perils have been put before our eyes at every angle. If Industry fails to do its part in Americanization it will not be because of lack of warning or of instruction.

We of the Committee endeavor to place in this report that which may be useful to the member companies of the Association who desire to begin and to carry on in the teaching of English and other Americanization activities.

It is generally agreed among us, as Association Companies, that we are not only willing but strongly desirous that the Public School System should do its part in the teaching of English to the foreign-born. If the public school has the money and has what Mr. Fout calls the "vision," let all encouragement be given them for the work. If these are lacking in the public school, experiment has indicated thus far that we as industries cannot pass the burden of the matter to them or to others. The policy of special donation to the public school or to any one else for extra company care in the teaching of English has shown to be of doubtful wisdom. If we must finance this business let it be done under sure control and where the product can be passed on.

It will be to the interest of industry to develop its foreign-born employes only in line with the best ideals of democracy.

There remains always for the industrial firm the training for the foreign-born in the special vocabulary and phrasing of their own practice.

A separate book for school use should be prepared by each company dealing with their management, machinery, equipment, raw material, processes and product.

A factory book on arithmetic is also needed.

The classes using such special books might well be taught by experienced employes well acquainted with the principles and practice of the company and infused with a spirit of understanding and loyalty toward it.

The Standards, as presented for teaching of English to the foreign-born, are the result of replies to questionaire and of personal visits to firms represented. We have had many inquiries for just such information.

The suggestions (rather than standards) for Americanzation are offered as results of experiments by industrial firms. It is probable that much more in this line will be attempted now than heretofore.

The questionaire table covers the replies of member companies who maintain school work. We have not included those where the instruction and finance are by public school, even though, as in some cases, in company building. These will be reported, we presume, by the public schools as their work.

STANDARDS FOR TEACHING ENGLISH TO THE ADULT FOREIGN-BORN

1. *Economic Soundness.*

The education in English of the foreign-born is considered economically sound—no dissenting word.

2. *Census.*

It is worth while to make an educational census of employes; carefully distinguishing those who are, through knowledge of English, safe from accident.

3. *Informing employes.*

The employe can be informed of school work offered by shop meetings, and posters in the various languages. Priests, when requested, may make favorable announcement. All churches are united in the desire that knowledge of English be extended.

4. *Finance.*

The main part of the financing of the school work should be by the Company. Where attendance is not compulsory a small fee may be charged; this has its advantage in steadying the purpose and attendance. Where attendance is compulsory it is generally agreed that no fee should be charged; and some companies advise that instruction be given on all or part company time.

5. *Locations.*

Where financed by the company the school is usually housed in a company building, but in some cases by a Y. M. C. A. or a Public School.

6. *Management.*

The management is for the most part by the company, with often a public school nominal connection; in other cases by the Y. M. C. A.

7. *Maintaining Attendance.*

Good instruction; sympathetic bearing. Pay for all, or part, of time in school; bonus for school work done. Departmental influence; follow up calls in the shop or the home.

8. *Subjects Taught.*

English, Civics, History, Geography, Arithmetic.

9. *Methods of Instruction.*

Use the object method in the beginning. This is almost a necessity where instructor is not acquainted with the language of the student.

The Dramatic method may apply more or less in the beginning; depending on the aptness of the instructor as much as of student. This method need not occupy much of course; should not be overdone.

The theme method may be to some extent profitably used in an intermediate class.

An inclusive method, combining all the good of the foregoing, with some old fashioned common school applications is probably the best of all, depending on length of course.

The correspondence method should be used only when the direct is impossible.

10. *Instructors.*

Where management is by the Company, or financed through a Y. M. C. A., employes have proved most satisfactory. Women are more likely than men to appreciate the situation and to quickly establish a right student spirit. For the higher classes men employes will be better acquainted with the vocabulary and practice of the company. In general, American born instructors are best, but occasionally a man or woman of foreign birth and American teaching will do excellent work. When of the right sort they have the advantage of the two viewpoints, foreign and American.

11. *Compensation of Instructors.*

Instructors should be fairly compensated for the time spent in recitation and preparation.

12. *Size of Class.*

A class may well have from 8 to 15 students. For a brief course in the dramatic method a larger class is possible but it gives little opportunity for individual aid.

13. *Classification.*

For the beginners classify by knowledge of English; if number is sufficient there is some advantage of having groups by nationality. For the intermediate and advanced disregard nationality. If there be only a few women, not sufficient for a separate class, they may recite with the men.

14. *Length of Course.*

Two or three periods a week of from one to two hours (the latter preferable), may be held. This should extend over at least eight months of the year. The summer is not a good time for school work. If the students can be gotten together at evening periods from 7.00 to 9.00 it is best; they have thus opportunity for washing up, food and proper clothing; a matter which much affects their bearing. Where employes scatter to distant homes, it may be necessary to have the recitation time precede or follow the work hours.

15. *Certificates and Diplomas.*

Give a certificate at leaving with a definite and accurate record of results gained; it will be useful in any other school the student may enter. A fairly complete course should be laid out and if completed a diploma may be awarded.

16. *Foremen.*

Instruct foremen to use only English with employes, and to report to school in writing those who seem unable to understand directions given.

17. *Records.*

Such records should be kept as will show total yearly enrolment, average monthly enrolment, average daily attendance. It is well to print at end of school year a year book, to include names and classification of students. This makes good advertising matter and puts information in an orderly manner for use in reports.

SUGGESTIONS FOR AMERICANIZATION

1. *Community Center.*

Aid in establishing and advancing community centers can be given by interested company officials. This may be done as individuals or as company representatives. (For a suggested program in community Americanization see circular letter issued by Bureau of Education.)

2. *District Trained Nurse.*

A number of companies maintain a district nurse, a service not confined to employe families. There is probably no better way of ministering to an industrial neighborhood.

3. *District Visitor.*

A district visitor is a good co-worker for the trained nurse. The district visitor will find out the needs of the community, family, individual, in body, mind and spirit, and endeavor to direct their forces toward relieving and building up.

4. *Safety and Health.*

By circulars with pay envelopes, by illustrated posters, and by indoor or outdoor moving pictures and addresses, much can be done to interest the employe and his family in bodily welfare.

5. *Entertainments.*

Good success has been obtained in initiating and fostering musical entertainments and social gatherings devised and carried out by nationality groups of the foreign-born. Opportunity is thus given to make special abilities known to American foremen and fellow workman as well as to their own people.

6. *Flag Raising.*

In after war times, also, a flag raising with music and brief addresses might appropriately be arranged for Flag Day or other suitable time.

7. *Legal Aid.*

Opportunity to secure legal aid should be offered. For difficult cases it may be well to retain the services of a local lawyer.

Much embarrassment and injustice is suffered by the foreign-born through lack of proper legal advice.

8. *Naturalization.*

The company should be ready to give any requested aid in obtaining naturalization.

9. *Church and National Society Recognition.*

Friendly acquaintance and council with religious and national society leaders will do much toward establishing pleasing and just relations with the foreign-born. What a large part of the strikes and local industrial unrests have had origin in a lack of mutual understanding rather than in intentional unfairness on the part of employes or employed!

10. *Restaurants.*

Much of the inefficiency of certain of the foreign-born has come from lack of proper food. The companies who have tried the restaurant experiment are convinced of its value, particularly for the single men. It should be available for the latter every day and every meal.

11. *Savings Accounts.*

Savings accounts for small amounts have been encouraged by some companies.

12. *Financial Aid.*

Aid in building homes and aid and advice in investments may be offered to the foreign-born. The latter must be done with caution but the lack of it has permitted much loss.

13. *Value and Result.*

With superintendent and foremen it may be insisted that helping to develop foreign-born workmen into good Americans is an important part of their company duty. The result of doing this should be the furtherance of an attitude of kindly helpfulness and just consideration for the foreign-born fellow employe.

SCHOOLS FOR FOREIGN-BORN

Company	Management	Finance	Method	Instructors	Size of Class	Recitations	Total Enrollment
American Bridge Co....	Company	Company and Student Fees	Inclusive	Men and Women Employes	5 to 12	2 a week 8½ months	73
American Rolling Mill Company	Company	Company	Object and Dramatic	Men and Women Employes	2 to 16	2 a week 10 months	100
Brighton Mills	Company	Company	Object and Dramatic	Women Employes and Non-employes	8 to 14	4 a week	about 50
B. F. Goodrich Co.	Company	Company	Object	Men and Women Employes	5 to 15	5 a week 12 months	over 1,000
Illinois Steel Co.	Company and Y. M. C. A.	Company	Object	Men and Women Employes and Non-employes	25 to 30	1-3 a week 9 months	about 1,400
Westinghouse Electric & Manufacturing Co.	Company	Company and Student Fees	Dramatic	Men Employes	12 to 25	3 a week 9 months	151
The Youngstown Sheet & Tube Co.	Company	Company	Inclusive	Men and Women Employes	12 to 15	3 a week 8 months	350

ORGANIZATIONS PROMOTING AMERICANIZATION

These companies issue bulletins, circulars and reports

Bureau of Education,
  Washington, D. C.
Bureau of Naturalization,
  Washington, D. C.
National Council of Defense,
  Washington, D. C.
National Americanization Committee,
  29 W. 39th Street, New York City.
U. S. Chamber of Commerce,
  Washington, D. C.
The National Association of Corporation Schools,
  15th Street at Irving Place, New York City.
Young Men's Christian Association,
  New York City.
Young Women's Christian Association,
  600 Lexington Avenue, New York City.
Sons of the American Revolution,
  Washington, D. C.
Carnegie Foundation,
  New York City.
State Councils of Defense,
  Address at State Capitol.
State Americanization Bureaus,
  Address at State Capitol.
City Councils of Defense.
City Americanization Bureaus.
City Chambers of Commerce.
National, State and City Church Organizations.

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Carl Schurz: *Reminiscences.* German-American.

Riis: *Making of an American.* The key to the Scandinavian situation.

Steiner: *From Alien to Citizen.* Against the Current.

Cahan: *Rise of David Levinsky.* A Novel.

Ribbany: *Far Journey.* The far journey is from Asia Minor to America; from stone mason to minister of the Gospel.

Ribbany: *Militant America and Jesus Christ.* Constructive, written for soldiers and sailors.

Stern: *My Mother and I.* Russian-German-Jewish background.

Demetra Vaka (Mrs. Kenneth Brown): A good war book interpreting Greece to America and the Allies.

Ravage: *An American in the Making.* Life story of a Roumanian Jew.

Ross: *Russia in Upheaval.*

Sack: *Birth of Russian Democracy.*

Dillon: *Eclipse of Russia.* Presents historical side.

Mary Antin: *The Promised Land.*

Wade, Mary H.: *Pilgrims of today.* Little sketches of John Muir, Jacob Riis, Mary Antin, Edward Steiner, Carl Schurz, Nathan Straus and Joseph Pulitzer.

Cohen, Rose: *Out of the Shadow.* Autobiography of a Russian Immigrant.

Holt, Hamilton: *Life Stories of Undistinguished Americans* As told by themselves, with an introduction by E. E. Slosson

Hosanovitz, Elizabeth: *One of Them.* Chapters from a Passionate Autobiography. Story of a Russian girl's struggle in a New York factory.

BOOKS ON EASTERN AND SOUTHEASTERN EUROPE

. GREECE, THE BALKAN STATES, AND TURKEY.

Ludlow, J. M.: *The Captain of the Janisaries.* Albania and Constantinople at the fall of the Eastern Empire.

General Lew Wallace: *The Prince of India, or, Why Constantinople fell.*

Henty, G. A.: *A Knight of the White Cross.* A Tale of the Siege of Rhodes.

Jokai, Maurus: *Halil the Pedlar.* A Tale of the Old Stambul.

Czajkowski, Michael: *The Black Pilgrim.* A Tale of the struggle for Faith and Freedom in the Balkan Peninsula.

Mordecai, Margaret: *The Heart of Bosnia.*

Jokai, Maurus: *The Lion of Janina; or the Last Days of the Janisaries.*

Marriott, J. A. R.: *The Eastern Question.* An historical study in European diplomacy.

Burgess, Thomas: *Greeks in America.* An account of their coming, progress, customs, living and aspirations.

Gradonnis, J. D.: *A Man of Athens.*

Benson, E. F.: *The Vintage. The Capsina* (sequel). The Greek War of Independence from the point of view of the Christian population.

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Harton, George: *In Argolis.*

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Ispirescu, Petre: *Foundling price and other tales.* Translated and adapted from the Roumanian.

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Jenkins, H. D.: *Behind Turkish lattices.* The story of a Turkish woman's life.

Kunos, Ignacz: *Turkish fairy tales and folk tales.*

Russia and Poland

Sienkiewicz, Henryk: *The Knights of the Cross.* An Historical Romance of Poland and Germany.

Tolstoy, Count A. K.: *The Terrible Czar.*

Whishaw, Fred.: *A Boyar of the Terrible.*

Whishaw, Fred.: *A Splendid Impostor.*

Sienkiewicz, Henryk: *With Fire and Sword.* An historical novel of Poland and Russia. *The Deluge:* Poland, Sweden and Russia. *Pan Michael:* Poland, Russia and the Ukraine.

Whishaw, Fred.: *Nathalia.*

Sienkiewicz, Henryk: *The Field of Glory.*

Whishaw, Fred.: *Mazeppa.* Mazeppa and the Cossacks. The youth of Peter the Great Boris, the Bear Hunter. A tale of Peter the Great and his Times. Near the Tsar near death. A story of Peter the Great's relations with his hopeless son Alexis.

Merezhkowski, Dmitri: *Peter and Alexis.*

Dickson, Harris: *She that Hesitates.*

Whishaw, Fred.: *Peter the Great.*

Tolstoy, Count Lyof Nikolaevitch: *War and Peace.*

Whishaw, Fred.: *Moscow.*

Henty, G. A.: *Through Russian Snows.*

Jokai, Maurus: *The Green Book.* Freedom Under the Snow.

Verne, Jules: *Michael Strogoff.* The Courier of the Czar.

Dostoevski, Fedor Mikhailovich: *Poor Folk.* Also Buried Alive; or, Ten Years Penal Servitude in Siberia.

Pollard, Eliza F.: *True Unto Death.* A story of Russian life.

Whishaw, Fred.: *Sons of Freedom, or, Fugitives from Siberia.*

Tolstoy, Count L. N.: *The Cossacks.* A Tale of the Caucasus in 1852.

Bechhofer, C. E. (ed.): *Russian authology in English.* Fragmentary extracts from Russian verse, drama and prose.

Buchanan, Meriel: *City of trouble.*

Gilbreath, Olive: *Miss Amerikana.* A story.

Gogol, N. V.: *Evenings in little Russia.* Popular legends.

Gorky, Maxim: *My childhood.*

Lethbridge, Alan: *The New Russia, from the White Sea to the Siberian Steppe.*

Lethbridge, Marjorie and Alan: *Soul of the Russian.*

Mackail, J. W.: *Russia's gift to the world.*

Poole, Ernest: *The Village; Russian impressions.*

Ross, E. A.: *Russia in Upheaval.*

Steveni: *Things Seen in Russia.*

Williams, H. W.: *Russia of the Russians.*

Gardner, Monica M.: *Poland, a study in national idealism.*

Van Norman, L. E.: *Poland, the knight among nations.*

Van Norman, L. E.: *Poland's Case for Independence.* Being a series of essays illustrating the continuance of her national life.

WRITTEN WHILE SERVING IN THE ARMY OF THE CAUCASUS.

Sevastopol. Three intensely realistic sketches of the Crimean War.

Hatton, Joseph: *By order of the Czar.* The Tragic story of Ann Klosstock, Queen of the Ghetto.

Gordon, Samuel: *The Ferry of Fate.* A Tale of Russian Jewry.

Inchbold, A. C.: *The Road of no Return.*

Inchbold, A. C.: *The Revolution of Russia.*

Inchborn, A. C.: *Peasants Pilgrims in the Holy Land.*

Italy

Trevelyan, G. M.: *Life of Massini by Bolton King.*

Trevelyan, G. M.: *Garibaldi and the Roman Republic.*

Trevelyan, G. M.: *Garibaldi and the Thousand.*

Trevelyan, G. M.: *Garibaldi and the Making of Italy.*

Skrine, F. H.: *The Expansion of Russia.*

Morrill, W. R.: *Poland.*

Kropotkin, P.: *Memoirs of the Revolutionist.*

Marotz: A crowded and well-informed picture of Sicilian life at the time of Victor Emmanuel III and Pope Leo XIII.

Crawford, F. M.: *Saracinesca.* *Sant' Ilario* (sequel). *Don Orsino* (sequel). *Corleone; a Sicilian story* (sequel).

Garlanda, Federico: *New Italy.*

Gordon, Lina Duff: *Home Life in Italy; letters from the Apennines.*

Holland, R. S.: *Builders of united Italy.*

Holland, R. S.: *Sketches about eight prominent Italians.*

Hood, A. N.: *Adria; a tale of Venice.*

Mason, Mrs. Caroline (Atwaly): *Spell of Italy.*

Ward, Mrs. Humphry: *The political and social life of modern Italy.*

Proposed General Vocabulary for Foreign-born Use

These words to be incorporated in book form in pleasant descriptions and narration. Suggestions for additional words are requested. It is expected that list will run to about 1000.

Air
all
add
arm
all right
above
ashes
act
aim
acid
assist
ankle
angry
approach
accuse
across
alive
alone
apple
accept
apply
agree
abdomen
aunt

back
bin
bone
blast
bean
banana
bloom
black
blue
brown
brother
bread
butter
bowl
buggy
bank
boss
big
breast
boiler
bundle
bend
brush
bridge
blower
block
badge
blind
buy
bundle
barrel
broom
brace

crack
clock
cage
cart
card
check
course
chain
crane
count
come
coke
cut
comb
cable
car
cool
cold
coal
chest
coupler
city
corner
chin
cheek
clerk
cinders
carrot
cabbage
cast
child
children
coffee
clean

door
down
done
draft
doubler
dust
doctor
driver
drill
damper
dinkey
duck
drink
draw
ditch
dig
dumper
derrick
die
dead
deaf
damp
dinner
danger
drag

ear
eye
easy
expand
express
employment
extra
exit
examine
entrance
engineer
engine
eat
eight
electricity
election
enter

frame
flame

flower
furnace
frame
face
finger
feet
foot
feel
flour
father
flag
float
fork
flour
fan
fire
fireman
fruit
flaw
flux
fill
file
full
found
fine
fence

good
gas
gun
guard
gauge
guide
green
gloves
glass
grey
glasses
goggles
give

grand
ground
great
grate

head
hair
heart
hand
heat
hard
heel
hole
hold
hook
hang
high
hip
hall
hammer
hatchet
hose
home
handle
him
her
he

inside
inch
insure
innocence
instruct
invite
interest
ingot
include
iron
it
inward

in

jaw
joint
jam
jail
join
jump
juice
joy
jack
kick
keep
knife
knee
kneel
know
kill
keg
kitchen
knuckle
kink

laborer
leg
lung
liver
loop
line
lime
look
like
lame
limb
lean
low
leak
long
lift
locomotive

left
late
large
light

man
men
motor
mother
mall
mind
mine
meat
meet
mold
mail
metal
matches
mouth
mule
mile
mud
mix
manager
mill
make
meal
maimed
main
mean
male
minute

name
noun
nice
next
nail
neck
nine

neighbor
nothing
note
niece
nick
number
out
oil
over
office
ore
onion
oven
on
off
oiler
outside
outward
old

put
pull
push
pay
pile
pavement
purple
pickle
plum
pear
peach
pick
plate
pulpit
plant
plank
pit
policeman
punch
power

parent

quick
quit
quite
quiet
quench
quarrel
queer

red
read
rest
run
rigger
rougher
record
roof
rise
river
reel
roller
rain
rod
room

screw
sleep
skip
skelp
snapper
sand
sailor
steel
steam
safety
spoon
sour
sweet
sugar

sitting
sweeper
stock
steal
stone
shovel
shone
slag
saw
sort
stand
state
send
safe
soft
spill
sell
spike
shears
scrap
slate
soap
strip
sledge
stove
she
sink
spool
scrape
socket
splice
supply
sort
street

talk
tell
tally
teeth
tooth

turn
transfer
ton
ten
tin
time
thigh
table
tool
tongs
tongue
tank
truck
towel
track
throat
thumb
toe
tomato
turnip
tend
trestle
tube
tie
tackle
take
united
under
unwind
uncle
valve
vowel
vice
value
voice
vinegar
vent
vein
vane
vote

walk
where
when
which
wash
wheel
what
weigh
water
washer
window
wire
white
way
write
win
want
wind
wrench
work

xylophone
x-ray

yard
yes
you
young

zeal
zero
zone
zigzag
zinc

AMERICANIZATION

American Rolling Mill Company, Middletown, Ohio

By Miss Margaret B. Reisch

The American Rolling Mill Company has not fallen short of other industrial enterprises in its Americanization Program. For years the Rolling Mill has been doing its bit in the way of Americanizing newcomers to our land, by showing them how real Americans live, and teaching them how to live under American conditions. The foreign employe is becoming Americanized by encouraging and enabling him to live as Americans live. The work has developed to such an extent that the foreign section of Middletown presents a different aspect to the visitor from that of most cities. The foreign born families are scattered through all parts of the city, many of them owning their own homes.

For many of its foreigners the company has built or purchased near its plant little bungalows. This permits of a low rent, and keeps the men very near to the mill. There are fifty-eight of these houses, several being eight or twelve-room houses, and practically one-half of them being five-room houses. By special arrangement with the Middletown Realty Company the foreigner is enabled to buy a home on very easy monthly payments. This housing plan provides a respectable place of living, and encourages the employe to assume the responsibility of a useful citizen.

The Armco Foreign Club plays a leading part in Americanization. The club house is used for a meeting place for foreign societies wishing to hold meetings there. It is in charge of Mr. Fred Ernst, a man who is well known in the foreign settlements throughout the city. He is always interested in the man who wants to become a citizen and sees that the one who manifests such a desire is placed in an English and a Citizenship Class. He speaks several European languages and through his untiring efforts to help them, has gained the full confidence of the immigrants in every section of the town.

In the interest of Americanization, several rousing meetings have been held, at which the non-English speaking element were guests. The purpose of these meetings was, of course, to bring before these people the necessity of their learning to speak the English language, and to help them to realize the advantages to be derived therefrom.

Enrolment cards were distributed at these meetings, which were signed and returned by more than 200 men, thereby expressing their desire to learn English. The help of the different foremen about the plant was solicited in encouraging the foreign-born to come to school, and when the classes were started nearly all who had signed the cards were enrolled.

Sixteen classes were made up, each class reciting twice a week at a time during the day when the men could be taken off their jobs without causing any inconvenience in the mill. Night classes were organized for those who found it most convenient to attend after working hours.

Contrary to the custom in effect at many industrial plants, the men here are paid at their regular rates for these two hours a week spent in school.

The work is divided into what may be termed three grades—beginners' classes, intermediate classes, and advanced classes. The Peter Roberts' Dramatic Method is used almost exclusively in the beginning classes, special stress being placed on Oral Expression. Results have been satisfactory and encouraging and we feel that the method is well worth while.

In the intermediate or second grade work, Beshgeturian's "Foreigners' Guide to English" has been employed with considerable success.

For advanced or third grade work, Forman's "First Lessons in American History" is being used as a reader. Composition, conversation, spelling, grammar are based on the lessons from this book.

The teachers of these classes, with one exception, are individuals who hold other positions with the company, and who have expressed themselves as being sufficiently interested in the foreign speaking men to devote a few hours a week to the task of educating them.

Books and supplies are furnished by the company free to all foreign classes.

Success is almost impossible without the cooperation of the foremen. They are in touch with the men every day, directing them about their work, and talking to them, and it is only natural that they should be interested in their advancement. The foremen at the American Rolling Mill Company have shown their hearty cooperation in this work.

Reports are sent from time to time to the foremen. These are in the form of lessons which have been written by the scholars, together with a letter from the teacher to the foremen, asking each one for his criticism and for any suggestion he may desire to make. In this letter he is urged to use his efforts in persuading the scholars to be regular in attendance, and to give them all the encouragement possible.

Much visiting has been done among the families of these pupils. When a scholar has taken sick, or has chosen to absent himself from school two or three times in succession, the effort is made to see him in his home. This personal touch does much to hold the interest of the pupil, and keep him in school. It makes him feel that we really want to help him to become a better American.

Not only do we aim to have Armco employes in these classes but the invitation is extended to anyone in the city who wishes to learn to read and speak English.

The hours for classes are: from 8 to 10 every morning, from 2.30 to 4.30 two days a week, and from 7 to 8.00 or 8.30 every night.

Since the signing of the Armistice, a number of these men have been laid off, and some of them have gone to work for other factories about the city. The reducing of the number of foreigners about the plant has naturally reduced the attendance in school. Just now the Americanization Committee is arranging for a meeting with the Chamber of Commerce, hoping in this way to arouse the interest of the leading men in the city in this work, and finally to arrange a plan by which we can work in conjunction with other industrial plants in the city. It is hoped that a school will be opened in the business section of the city for Americanization classes.

No doubt we can thus reach many of the men who were originally in our classes, and who have been dropped off the pay-roll.

The company has for years maintained a Personal Relations Department. The activities of this department are classed under the headings: Medical, Safety and Sanitation, Mutual Interest, Employment, and Education. The Americanization program makes up a part of the work of the Education Department, and the officials of the company feel that it is fully as important as the work of any of these others. Therefore it is receiving their cooperation. Whatever makes for the binding together of men in the spirit of mutual happiness receives from the officials all possible encouragement and support.

Out of the mass of humanity that comes to the Armco Melting Pot, we are endeavoring to make straight out and out Americans.

Women's Classes

Much is yet to be done in the interest of English for foreign women. Not only have we been working with the men, but we have also organized classes for women. This line of work has a history of its own.

Two weeks previous to December 2, 1918, the date set for opening school for foreign women, there was a visiting campaign carried on among the foreign families in the different sections of the city. The object, of course, was to advertise the prospective classes, and to get the women interested in the school.

At first our outlook was very bright, a sufficient number for four or five classes promising to come to school. But on the night our first class was scheduled to meet, only one woman came. Of course this was discouraging to a certain degree, but we did not lose all hope. We visited again and again, and now the reward is coming for our work. We have quite a nice class of women who have the real desire to learn to speak and read English. The work is growing, slowly, but surely, and we are looking forward to a better day for our classes for women.

The lessons for this class are all written by the teacher, with the help of a good text book. No particular book is used in the class, because it is thought that a variety of lessons is necessary in order to hold the interest of the class. Lessons from every-day life always bring the best results. For a reading lesson, a selection is made from some good text book, and copies of it made, enough to give each woman a paper.

The women meet twice a week, at 7 o'clock in the evening, in a room provided for them in Armco School, and they are enthusiastic and regular in attendance.

A certain amount of visiting is being done, in the hope of developing the work until we have every woman in Middletown who does not speak the English language on a fair way to a better understanding of American ideals.

PROMOTING ATTENDANCE IN ENGLISH CLASSES

Carnegie Steel Company, Pittsburgh, Pa.

By A. H. Wyman

The term "Americanization," as used in educational work, has been exceedingly general. However, the following three elements have formed the basis of all schemes for teaching new Americans:

First—The teaching of English.

Second—Preparation for taking out Second Paper in Citizenship.

Third—Preparation of the individual for larger expression of himself, in his home, his work, and his community.

In the teaching of English, the endeavor has been to develop two vocabularies, which may be termed vocational and avocational vocabularies. By vocational vocabularies, we mean those words which will be of value to the workman in his particular occupation. In the avocational vocabularies are included words which are used in the home, and on the street. Courses that have included both vocabularies have had wonderful success in teaching true American ideas and ideals. Often the Public School and the Public Library courses have neglected the use of the vocational vocabulary.

The preparation made by non-industrial agencies to bring their pupils up to the standard required by the Naturalization Courts, often times limits the courses to the examination questions alone. In doing this, we lose sight of the main object of Americanization study, which is the teaching of true American ideals and ideas. The non-American should be taught the proper methods of living. He should grow to have a different and better attitude toward his work. A stronger relationship should be fostered between the non-American and Community life. By doing so, he has reached the height of his Citizenship work.

Often times the non-industrial institutions have taken the attitude that the education of new Americans must be largely general, and have looked upon the institutions as being unappreciative of educational values, while, on the other hand, the industries have considered Americanization work as being impractical. The industries have often looked at the problem only from the viewpoint of the workroom, and have used their Welfare Work and Educational Department for means of publicity. If a scheme whereby the viewpoints of the public institutions and industry can be combined, a more efficient work will be accomplished.

The Agencies offering education for non-Americans are as follows:

1. Y. M. C. A. and other semi-public institutions.
2. Local Board of Education.
3. State Board of Education.
4. Local Industries.

The Y. M. C. A. has extended its Americanization work to the communities where large numbers of non-Americans have congregated largely from the social standpoints, through cooperation with local industries. The Industrial Secretary encourages local Educational Agencies to carry on the work. Besides organizing classes, the Y. M. C. A. has developed the social instincts of the new Americans by offering various entertainments, such as motion pictures, lectures, patriotic gatherings, and other cosmopolitan clubs. The Y. M. C. A.'s in the Atlantic Coast cities have grasped this opportunity to develop the non-American to an appreciation of his own powers and responsibilities.

The Chambers of Commerce in a large number of cities have organized non-American people into definite educational activities. A Director of Americanization activities is hired to take charge of all phases of this work. They operate free public evening schools, strategically placed in various foreign sections of the city, and under direct supervision of the Superintendent of Schools. The Playgrounds Association conducts recreational activities in the Public evening schools one evening each week under the supervision of the Superintendent of Playgrounds. The Director circulates regular bulletins among the Industrial Superintendents, division heads, foremen, and other employers of labor, with sane and healthful suggestions to increase the attendance of the non-English speaking men and women. He should obtain the close cooperation of all local organizations coming in contact with immigrants, which would include visiting nurses, employment agencies, associated charities, foreign societies (Benefits and Insurances), foreign churches, public libraries, foreign papers, foreign leaders, local press, various patriotic associations, Clerk of Common Pleas Court, Clerk of United States Court, factory classes on request, factory campaign.

English Schools (Methods of Securing Attendance).

Twice a year campaign to secure large attendance of foreign workmen:

(a) Distribution of hand bills in foreign sections and in the plants.
(b) Distribution of large colored night-school posters.
(c) Organizing various agencies coming in contact with foreigners.
(d) Distribution of map of city or town location of public evening schools, publication of this map in all daily and foreign newspapers.
(e) Factory surveys during one month to secure data for factory enrolment.
(f) Factory enrolment at beginning of evening school term in September Night School Teachers' Institute.
Intersectional Americanization Conference with group of large employers of foreign labor.
Securing employment for night school pupils out of work.

In General.

Gathering material on social center activities in public evening schools for foreigners, from which the committee can make definite recommendations to the public school authorities and recommend suitable legislation and adequate appropriations.

Gathering data as to how individual factories acquired efficient methods in handling the detail of the Americanization campaign in their plants.

Distribution of this data in form of bulletins after its consideration and analysis by the committee.

Definite effort to constantly impress upon the employers of foreign labor the economic gain in increased industrial efficiency secured by sending workmen to the public evening schools.

Publishing a booklet giving authentic information for immigrants in cities, preparing to be American citizens—distribution of same, free.

To a degree, the Chamber of Commerce has assisted Boards of Education to take a broader and more sympathetic attitude toward local industries, and on the other hand, has brought these industries to appreciate the importance of establishing means of education.

The following plan has been worked out to increase attendance of non-English speaking workmen in the free public night schools, and in preparing them for American citizenship. This plan has been successful in dealing with smaller plants and factories through the cooperation of the Superintendent and foreman.

First—Ascertain how many foreigners are employed in your plants and how many of them should be attending night school to learn to speak English. For plants which have instructed their employment managers to keep a free night school and citizenship record for each new man hired, this will be a simple matter. A number of plants make a survey and get this information. Uniform blanks for this can be obtained from the Bureau of Americanization.

Second—Gather together all possible night school pupils at noon hour or at such other time as is convenient. Outline in a brief speech or through an interpreter the advantages of attendance and urge them to attend night school regularly. Tell them that on application of ten or more non-English-speaking immigrants promising to attend regularly free night school night classes will be opened in any of the city public schools nearest to their residences. Distribute handbills and display same prominently on bulletin boards giving the name and location of the free night schools in operation. Ask all foremen to show the men how to find the school nearest to their homes on the map. and how to get there.

Third—From your list of men of foreign birth pick out the men who really need the training. Let all the foremen help their men to fill out their registration cards furnished free by the Bureau of Americanization. Have the foreman tell the men to take these cards with them to school. Make up a school attendance list. A sample page of an ordinary time book can be used showing a good way to make up such a roll, or blank cards can be obtained from the Bureau of Americanization. Such a list should contain the name of the employe, his check number, the school he attends, and other important information.

Fourth—Having started the men to attend the schools on Monday, Wednesday, and Friday evening from 7.15 to 9.00 P.M., the problem is to see that they do not quit or get discouraged. On the last school night of each week the teacher will give each man a card showing his record of attendance for the week. The men should bring these cards to work with them and drop them in a special night school box which should be placed at the gate through which the men enter and leave the plant. You already have your roll made up when you make your survey. Now the cards in the box should be collected and used to mark your roll. When the roll shows that any one of your men has not been at school for a period of two weeks this should be reported to the foreman under whom the man is working. The foreman should in a friendly and sympathetic manner urge the man to make an effort to attend the free public night schools and learn to speak English and to become an American citizen. This personal contact will stimulate regularity of attendance and promote a better understanding between employer and employe.

It would seem that the best scheme for conducting activities with non-English employes is through the cooperation between industry and community. At the present time, education within the industries is conducted through one of four forms of organization:

1. Separate Department of Education.
2. Department of Welfare.
3. Department of Labor.
4. Some Combination of these Departments.

All Educational work should be closely connected with the Welfare and Labor Departments.

At the present time, industries are using both voluntary and compulsory methods of securing attendance at English classes. When the men volunteer to attend class they are generally unpaid for their time in class-room. Where compulsory attendance is instituted some industries pay for a man's time, and some do not. In most instances where the individual is paid for attending classes, he works a full day in the industry and attends the class either directly before or directly after his work. His time in the class-room is then paid for on the basis of the average wage which he receives in the shop.

Of the various plans which are in practice for securing attendance at English schools in industries, the one which provides compulsory attendance with pay seems the most desirable for the following reasons:

1. Any system which is to reach all classes of employes must be compulsory because only by insisting on attendance will a school be able to reach the less ambitious type of man, who from the standpoint of the community and the industry requires training in English just as much as the man who would avail himself of voluntary opportunities.

2. A purely compulsory scheme without remuneration would tend to result either in dissatisfaction, or in the refusal of workmen to continue to be employed in the industry.

3. A voluntary scheme with pay would still fail to reach certain individuals who would be getting sufficient pay to provide the necessities of life, but would fail to exert themselves to the extent of regular attendance at a class for the teaching of English. Irregular attendance in the voluntary system with pay would tend again to lead to complications which would disturb labor conditions in the industry.

In the spring of 1915, with the cooperation of the superintendent of schools and the superintendent of evening classes, an investigation of evening schools in Chicago was made. During that year, of the 17,613 who were enrolled, only 7% attended as many as 70 out of 80 evenings of the session, and 23% attended less than 20 evenings. The inference drawn from such figures by those who do not know all the facts is that the immigrant is to blame for this showing. The newspapers called attention to the large number of non-English speaking residents in the South Chicago district and the small number that had taken out their citizenship papers. The papers quite rightly reasoned that something was wrong. The men who are employed in the steel mills of South Chicago work 12 hours a day for one week on a day shift, and the next week on a night shift. The classes the city offers these men meet four evenings of every week throughout a term of twelve weeks. In order to gain some first-hand information as to the reason why those who desired to learn English had dropped out in such large numbers, the following investigation was made. The reasons given by 341 for dropping out of these classes were as follows:

Change of teacher	2
Indifference of teacher	4
No classification of students	6
Discouraged over progress	17
Teacher unable to speak their language	22
Fatigue after the day's work	27
Changed jobs unable to get to school by 7 P.M.	36
Changed from day to night work	37
Illness or some family trouble	49
Dissatisfaction with school	51
Overtime work	69
All other reasons	71
Total	341

Ways by which a large number of these people might be kept in attendance immediately suggest themselves. The frequent formation of new classes and a follow-up system would secure the reattendance of most of those who leave on account of illness or with the beginning of the busy season in their trade.

Chicago conducts one very interesting and successful day school for adults near the center of the business district. Students are allowed to attend the whole day or such part of the day as they are free.

Conclusions

The best scheme for carrying on education for non-English employes is one of cooperation between the industry and the community. Wherever possible the industry and the local school system should work together.

Each educational agency has a distinctive viewpoint. The Y. M. C. A. undertakes its work with a very distinct social aim. The Public and State School Boards have a background of educational experience which should never be ignored. The industry makes a demand for the highest degree of efficiency in the education of its employes, and offers the mechanism for uniting educational work with safety and welfare work. Too much emphasis cannot be placed upon the necessity for the foreman maintaining a proper attitude toward the men working under him. In a number of industries, definite work is being carried on in the education of foremen to an appreciation of the opportunities which they have for cooperating with Americanization work, and for becoming active agents in carrying it on.

In view of the preceding outline in which I have attempted to present a general idea of some of the existing conditions in Americanization work, I will briefly summarize the few points that might increase attendance of non-English speaking immigrants.

In Industry.

1. Appoint an official, superintendent or foreman to be charged with the duty of urging immigrant employes to attend night school to learn English. Such officials can check up attendance and act as a clearing house of information for employes and for teaching them the aim of the Americanization school.
2. Post notices printed in English and the foreign languages describing evening school facilities and insert them in the pay envelopes of foreign employes.
3. Register and list all non-English speaking employes for use of school officials and teachers.
4. Enrol employes for English classes in the plant.
5. Hold plant meetings and invite school officials, teachers, and others, to talk to employes on advantages of evening schools, citizenship, thrift, safety, home owning, sanitation, etc.
6. Give preferences in making promotions to those increasing their efficiency by attending night school.
7. Compulsory attendance with pay may be advisable to start.

In Community.

1. Appoint Committee on Americanization to cooperate with Bureau of Americanization, to extend free evening school facilities.
2. Interview Priests and Clergymen and interest their active support.

3. Distribute notices, folders and leaflets giving information about evening school advantages.

4. Opening public schools as social centers. Activities to be fostered by Playground Superintendent for evening school pupils.

5. Unite heads of the various foreign societies to meet with Committee, and give expression to their viewpoints on all matters concerning their people.

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NEGRO WELFARE ACTIVITIES IN THE PITTSBURGH DISTRICT

Carnegie Steel Company

By A. H. Wyman

Early in the Spring of 1916, the southern negro started to migrate to the Pittsburgh District. Those who came north, at this time, were brought by labor agents, who had jobs ready for them. There were plenty of openings for steady work at high wages which made its appeal to the married as well as to the single negro in the south. The evidence was convincing that the good jobs were in the north. After a few weeks of labor in the different steel mills, a great number of negroes returned to their families, displayed their wealth, and fine clothing, put money into the hands of the old folks and waited for the next labor agent to pay their transportation north. Letters from those who remained in the north, together with the favorable publicity given by the negro newspapers, were the main methods of inducing others to look for an opportunity to come to the land of "big pay."

In 1917, thousands of negroes came to western Pennsylvania with no definite prospects of locating in an industry, and who did not have the least idea of how to go about securing employment. This condition caused a great deal of discomfiture and unrest among the negroes. It paved the way for unprincipled persons who were the only element among the negroes and whites who welcomed these emigrants and fleeced these unfortunates out of their last penny.

Of the thousands that came to the Pittsburgh District during 1917, could be distinguished three types of negroes. First—Colored students from the southern colleges who took pride in keeping respectable and who saved their money, therefore causing no disturbance. Second—The married man who came north, secured a job, sending for his family, and tried to exist in the poorest of sanitary living conditions. Third—The last type brought in, better known as "floaters" or "tourists," were as shiftless as they had been in the south. It has been this crowd of "tourists" that has given the employment managers, as well as the old residents, untold trouble.

These people soon experienced many hardships, such as poor housing and feeding facilities, being unaccustomed to city life, unprepared for the cold climate, racial prejudice, outrageously charged rents, and the work much harder than they had experienced in the south.

In the fall of 1917, it was discovered that Pittsburgh was housing twenty-six thousand negroes, in addition to thirty-four thousand already permanently located here. This condition caused the industries, churches, settlement houses and other welfare organizations, to take immediate action. The churches had refused to take care of the "floaters," the settlement houses, the Colored Y. M. C. A. and other welfare organizations did not extend themselves to welcome these "tourists," which left the industries, and a few public-spirited men and women, to work out ways and means of housing and providing recreation for these new emigrants.

The industries provided sanitary bunk houses, restaurants, new homes for negro families, and also provided recreational facilities. Three of the largest industries provided a total of seven negro welfare workers, to look after the interests of the negroes and their families. The welfare workers secured homes at reasonable priced rents, sanitary conditions were improved a hundred per cent in the private boarding houses; classes in reading, writing, and arithmetic were taught; recreation provided; Liberty loans explained; draft blanks properly filled in and endorsed; savings accounts instituted; sickness properly attended to; proper clothing provided; loans granted to tide the men over until the next pay day; community lockers provided in which the "tourists" could deposit their valuables; court cases properly handled and adjusted so that the men were allowed to return to work under supervision of welfare workers. A hundred and one "good turns" were done for the negroes by the industries, which added a great deal to their contentment.

The National League on Urban Conditions Among Negroes realized the necessity, early in 1918, of starting a branch office in Pittsburgh, which was opened in March, 1918, under the direction of Mr. John T. Clark. The Urban League secured the cooperation of the industries, went directly to work, and accomplished wonders in this district for the negroes. A few of their accomplishments are listed below:

Summary of Accomplishments

Seventy-six industrial plants and corporations have secured employes through the League.

Two thousand one hundred and nine applicants were placed in employment.

Twenty-one establishments were induced to employ colored girls as a first experiment in this direction and it has succeeded.

Two-hundred and thirty-four colored girls have been placed in clerical work in four of our large department stores.

Forty-eight meetings were held in the interest of negro health week, and twenty thousand pieces of high grade health literature distributed.

Six hundred and sixty-seven homes of recent migrants have been visited and conditions studied to learn their pressing problems.

Three hundred and nineteen cases have been assisted by our Morals Court and Travelers Aid Workers.

Two negro industrial welfare workers have been placed with large corporations.

Two hundred colored orphans were given a mid-summer outing and a Christmas treat by a group of colored women working through the League.

Fourteen colored nurses manned an Emergency Influenza Hospital in a badly stricken mill town in the Pittsburgh district.

Nine hundred and fifty persons have been given helpful advice and information.

Sixty-one organizations have cooperated with the League in various phases of its work.

About the time the Armistice was signed, the industries were beginning to realize the worth of some of the negro unskilled labor. They were taking their time to make the proper study and analysis of the colored man, and to check up his weaknesses as well as his good points. They found by looking through their records that the negro had served him faithfully, had stuck to some of the most disagreeable jobs, such as cinder pit work during the summer months, cleaning out sewers, and so forth.

The trouble makers were the "tourists," and the industries were partly to blame for this condition due to poor selection of labor by the agents in the south. Just as soon as the welfare workers and employment managers got together on this one point and cooperated with the police authorities to rid the town of this undesirable element, a change for the better was immediately seen. The robberies, murders, fights, and brawls of all kinds, have been due to this "tourist" type of labor. Early in the migration to this section the old negro employe wanted us to do away with the worthless type. It took a number of heartbreaking months to understand what the old negro employe really meant. They did not want these loose fellows in town, they would not have him in their homes or in their churches. They realized that their very existence was due to getting rid of these trouble-makers.

After a year and a half of struggling, we find the following results from our untiring efforts:

One—The communities have come to realize that the negro is here to stay and under proper living conditions will remain a good law-abiding citizen.

Two—(a). The industries have retained the faithful and are providing proper housing facilities, as well as looking after their recreation. One large steel industry has provided an appropriation for building a Negro Club House, which will include gymnasium, game rooms, bowling and billiards, reading room, classrooms, community lockers, shower baths and dormitories. The building is to be open to all the negro boys and men in a community of forty-two thousand inhabitants, one thousand of whom are negroes.

(b). Eight separate housing propositions have been started by as many different industrial concerns, to house the single man as well as the married man with a family. These houses are modern in every respect, having three to six rooms in each.

Three—A different attitude of the police department toward the negro. Under the tactful supervision of the welfare worker a closer cooperation exists between the industry, the foreman, the policeman, negro laborers and welfare workers.

Four—A systematic organization of all recreation facilities for the negro inhabitants, such as musical entertainments, community bands, motion pictures, clubs, etc.

AMERICANIZATION IN THE SHENANGO VALLEY

Headquarters at Sharon, Pa.

Director, E. V. Buckley

By A. H. Wyman

I have observed and followed very closely the remarkable progress made in Americanization work in the Shenango Valley for the last two years. In making my report, of this industrial activity in Americanization work, I could think of no better way of outlining the progress made in the Shenango Valley than to give you a few extracts from Mr. E. V. Buckley's Annual Report.

"If Americanization is needed anywhere in the states, it is needed for certain here in the Boroughs of Sharpsville, Sharon, Farrell, and Wheatland. Realization of that condition simultaneously on the part of the Sharon Chamber of Commerce and the Farrell Commercial Club, was responsible for the forming of the Valley Americanization Committee, which recognized immediately the needs of schools to teach English to the foreigners. The overlapping of the population of these Boroughs with Sharpsville and Wheatland, respectively, brought into cooperation the Sharpsville Improvement Association and the Borough of Wheatland, out of which grew the Valley Americanization Committee.

The use of buildings with light, heat, janitor service and the usual equipment was immediately pledged. A fund necessary for carrying out the school plans for the first year was estimated, and the subscription of this, apportioned according to the number of men employed in each plant, was seemingly welcomed and raised in a very short time. Due to a warm spirit of co-operation and a willingness on the part of everyone who was asked to boost, teachers were secured, supplies were on hand, mills were canvassed for students, and everything was ready when the school doors opened for the first time on April 2, 1917.

With six teachers in Farrell, two in Sharon, two in Sharpsville, and one in Wheatland, and every member of the Committee present for action, the foreigners were greeted and examined for a rough classification. Three classes were arranged: those who spoke no English, those who spoke a little English, and those who spoke English well. Out of a chaos of foreign tongues, gestures, names written illegibly and pronounced unintelligibly, order came and the men were signed up and started on their way to making "of many peoples, one nation."

Text Books

Primary—For those students who can neither write, read, speak nor understand English, the Peter Roberts System is used.

Intermediate—"English for Foreigners," by Mary Jimperieff, is a text which follows up very closely the work, when the pamphlets of the Peter Roberts System are completed.

Advanced—After finishing the Intermediate Grade, William Chancellor's "Standard Short Course for Teaching English to Foreigners" is studied in the advanced classes. Along with writing, reading and spelling, taken up in connection with practical things, this book also gives some drill in arithmetic, laws of health and sanitation, and government. In this class also, the Book of Wonders, published by the Bureau of Industrial Education, furnishes an interesting and practical text for supplementary work.

Citizenship

Courses in Citizenship are offered in special text designed to aid the students in their everyday connection with civic affairs, and to prepare them especially for the examination necessary for the final naturalization papers.

Supplementary to Text Books

Aside from the regular school books, many supplementary features are included with a view to offering practical help to the students. Letter writing is taught and already good use of it has been made. Letters from the students to their foremen have been written and answered.

In the advanced classes each week copies of the local daily newspapers are used as texts, the papers being read for practice in reading and pronounciation, and the meaning being explained and discussed for its own value.

Each session is opened with the singing of patriotic songs, which are taught in each room, and are sung with vim when the students gather together in the halls at opening time.

Occasionally the students are entertained by outside organizations, such as the Liberty Male Chorus, or speeches by various plant superintendents.

Student Help

A sort of information bureau is maintained through the teachers and director, through which much doubt as to draft regulations, personal affairs, such as prospective investments, citizenship information, employment, etc., is cleared away.

Monthly Bulletin

"The Americanizer" is a monthly publication published by the Valley Americanization Committee at Sharon, Pa.

Summary

First—In the Plant

(a) It saves time in giving orders and directions of work.
(b) It tends toward greater safety by teaching men to read signs and understand the work.
(c) It makes orders more explicit.
(d) It airs the dissatisfaction of the men.
(e) It satisfies the men and cuts down labor turn-over.

Second—In the Community

(a) It brings together different nationalities and gives them common interests.
(b) It stimulates in them a civic pride, tending toward better sanitary conditions.
(c) It brings them closer to merchants and encourages a fair and intelligent trade.
(d) It shows foreigners something better than the segregated districts in which they live.

Third—In the Country

(a) It is a defense measure.
(b) It is the greatest stimulus to naturalization.
(c) It shows men the best that we have and creates in them a greater desire for achievement in our country.
(d) In Americanizes America.

FACTORY AMERICANIZATION WORK BY THE B. F. GOODRICH COMPANY AT THEIR AKRON, OHIO, PLANT

By O. W. JUNEK

It is not my intention to write an elaborate report on Americanization work done by The B. F. Goodrich Company. I shall confine myself to facts which, I think, will be of more benefit to the Association than any essay on Factory Americanization.

Our work began in February, 1917, and was carried on in a regular and orderly manner for more than two years, when it was linked up with the Local Board of Education's plan in Americanization. The present enrolment is 500 and the present actual daily attendance averages over 300. There are 40 teachers in our school. The school itself is divided into two parts, namely, the Departmental School and the Central School.

The Departmental Schools are more practical than the Central School because the students do not need to go very far for their instruction, but immediately after quitting time they start to study. There is a place allotted to the Departmental School in several departments of our plant. A quiet place is found where the class is not hindered in its study. The supervisor of classes of each Departmental School, during his stay in the department, is under the jurisdiction of the department foreman. He reports, however, to the Plant Director of Education in all matters pertaining to education and to the Department Head only when he needs the cooperation of foremen and inspectors—and when organizing new classes or looking up absentees or doing any kind of school propaganda. His recruiting of new scholars and other school propaganda work must not interfere with production. On the contrary, the Departmental Class Supervisor should assist the foreman, assistant foreman and inspectors, if he is asked by them to do so, in helping to increase the pleasant relation between the workers and the company. Our own experience has taught us that the Departmental School system in Americanization is a success.

The Central School means nothing else but a place allotted to the instruction for those employes whose departments have not yet established classes. It is centrally located, easily accessible from all parts of the plant and has a class supervisor who gives all his time to the recruiting of new scholars. There is always an assistant class supervisor present when the class supervisor is absent. There is also someone present in the Central School to receive and enrol new scholars and assign them to the different classes. The teaching can go on from morning to night to accommodate men of all three shifts.

Below is the Akron Americanization Plan as applied by The B. F. Goodrich Company:

The Board of Education's Part

The Board of Education should be unanimously and wholeheartedly committed to the Americanization movement in the city and the industries. To accomplish this end the Board of Education should agree to *Appoint, Train, Supervise* and *Pay* all teachers in Americanization schools wherever and whenever under the general direction of the Board.

The Industry's Part

Every industry where Americanization classes are conducted in cooperation with the Board of Education should furnish classroom facilities either in the several departments or in some central location in or near the plant, together with whatever classroom equipment may be necessary for the teachers and students to carry on their work satisfactorily; and should *Appoint* and *Pay* the salary of some man who should be the *Recognized Point of Contact* between the industry and the Board of Education. This Plant Director of Americanization must give his entire time or such portion as is necessary to make the Americanization work in his industry a success. It should be his duty:

1. To hold from time to time conferences of all foremen and sub-foremen in his industry who have under their jurisdiction non-English-speaking foreigners.
2. To come into as close personal contact as possible with every non-English-speaking foreigner within his industry.

3. To recruit daily new students for the Americanization classes and to inquire into the reasons for all absences therefrom.

4. To maintain a spirit of intimate cooperation between the owners of the plant, the foremen of foreign labor therein and the employes themselves with the Americanization work being carried on in his industry by the Board of Education.

5. To maintain the closest cooperation with the representative of the Board of Education as to ways and means of promoting the Americanization work in his industry and developing a high degree of efficiency in his Americanization school.

Results

1. The teaching of a working knowledge of English to all non-English-speaking foreigners who attend the classes regularly within a period of approximately six months.

2. The teaching of some of the leading facts of American history and the development of the principles of democracy in this republic.

3. The teaching of the rights and duties of American citizenship, and offering such assistance as will aid the alien to secure his final citizenship papers.

4. The enlargement of the economic value both to employer and employe when each comes to understand the other better through the medium of a common language.

5. The unifying of all community effort dealing with this problem, which today is considered one of the most important and vital in our national life.

AMERICANIZATION AND ASSIMILATION WORK AT PLANTS OF THE INTERNATIONAL HARVESTER COMPANY

Mrs. Carolyn S. Davison, Secretary Industrial Relations

The imperative necessity and the duty of Americanization, helping to assimilate and to educate alien workers, whether men, women or girls, has been recognized for some time by leading manufacturing establishments of the country. The work of the Public Evening School, or the community center and the social settlement is now being supplemented in increasing measure by work of like character either in the factories and shops, or elsewhere, under the directions and auspices of representatives of employers.

The International Harvester Company has been mindful of its obligations and opportunities in the premises. In several of its plants classes or simple courses in the English language, and incidentally in civics and government, have been instituted, and the policy of the company is gradually to extend this work of Americanization and assimilation, stimulating the demand or desire and appreciation of it among its employes, and as far as possible encouraging cooperation for the purpose between the men and the representatives of the company.

Although the efforts in the direction indicated are relatively new, they have already led to certain important conclusions and have taught those interested and responsible certain useful lessons. These will be briefly outlined toward the end of this report.

First, as to the facts:

At the Wisconsin Steel Company

Classes in English have been organized for the benefit of employes of this plant, but they are not conducted in the plant itself. They are given at high schools, public schools and park centers in the neighborhood. One class, meeting at Bohemian Hall, receives instruction Tuesday and Thursday evening each week, while all other classes, now numbering about fourten, meet four times each week, from 7 to 9 p.m., and from 8.30 to 9.30 a.m. To date the highest total in attendance in one evening was 130.

Methods and Organization

An Industrial Secretary of Y. M. C. A. affiliations and training is employed at the plant for the Americanization work. He has a desk in a centrally located office. It is his duty to go among the employes, men in this case, and discuss with them the advantage and desirability of their attending classes in English at the various centers at which they are held. He is assisted by a plant committee composed of department superintendents and their assistants. In addition, they have organized a Ways and Means Committee. This last named committee is composed of men of foreign birth or foreign parentage, each shift of each department having one representative on it

The object in calling such a body into existence was to eradicate or prevent fear and suspicion on the part of the totally alien and unassimilated elements that in urging them to learn the English language the company has some selfish, ulterior or dubious motive. The members of this committee are the most natural and best propagandists of Americanization it is possible to have, since they have the confidence and trust of the men, are their equals and can approach them in exactly the right way and meet objections due to misapprehension or ignorance.

These men are volunteers. They were asked if they would serve and aid in inducing their less fortunate or backward fellow-workmen to acquire some knowledge of English and of American ways, laws and institutions, and thus better fit themselves for citizenship and industrial efficiency. The Industrial Secretary talks to them and explains their mission and function. Only those who gladly respond, and who are found fit for the task, are accepted.

The classes are always visited by a superintendent, or a foreman. A report of the visit must be made and sent to the Chairman of Ways and Means Committee. This body prepares the schedules weeks in advance. Reports are posted on special bulletin boards and give all the facts regarding the class, attendance, etc., in order to keep the interest of the men alive and inform them of the progress of the classes.

What and How the Men are Taught:

A primer has been prepared at the plant that is based on the vocabulary commonly used in every day work. Each lesson in the primer consists of approximately twenty words. In addition to the lessons, pictures of the many machines and tools used in the plant have been cut out of magazines and trade papers, and these have been pasted on paper, photographed and inserted in the primer opposite the lesson to which they severally applied.

When the men have learned a little English they are taught from this primer. The result is to give the men in a short time a useful vocabulary related to their daily life and work and contributing to their safety and efficiency. The next step will be easier and the expansion of the vocabulary natural and rapid.

Deering Twine Mill:

At this plant classes in English are conducted both for the men and the women and girl employes.

One class for the women meets twice a week at the noon hour and the average attendance is 26 students.

Another class, averaging 20 students, meets twice a week after working hours at 4.30. One hour is devoted to the instruction.

The classes are divided into two groups—the one for beginners and one for the more advanced employes. Good text books have been selected, one entitled "Lessons in English for Foreign Women" by Ruth Austin, and the other "Teach English to Foreigners" by Prior and Ryan.

The lessons are not interpreted in any other language, even in the beginners' group. English is the only language used and anything difficult is patiently explained in simpler language. This practice is a little hard on some, but only at first. It is remarkable and encouraging to note how soon the students become accustomed to the use of English and come to prefer it.

Teachers for the classes have been secured from the Board of Education. The teachers have proved to be competent and tactful and they have done excellent work.

The advanced groups, in addition to the regular book lessons, are encouraged to converse, ask and answer questions of one another, and so on. From ten to fifteen minutes is usually devoted to topics that are beneficial and interesting to the students outside of their ordinary conversation. These topics include city government, the making and administration of law, state and government, and citizenship.

In this way the employes are prepared to some extent for naturalization and the duties of citizenship.

At the plant most of the students in the beginners' classes have their "first papers" and are anxious to complete their naturalization. They are very much in earnest, according to the teachers, and their progress is marked.

It is interesting to record that a number of girl employes who had enrolled in the noon hour class came to the matron in charge and asked to be accorded better opportunities for study after working hours. At noon, they said, they had to wash, eat, get back to their places, and had little time to study. Their desire for evening classes was of course cheerfully and promptly met.

Naturalization aided and promoted:

At this plant, in addition to the classes described, both men and women employes, are aided in obtaining their citizenship papers. Blanks are kept and applications made out at request. An employe is sent down to the Circuit Court with the applications. Many have to be taken to the Steamship Information Bureau to ascertain necessary facts regarding their arrival in America, the name of the boat in which they came, the year, etc. Applications for second papers are filled out at the office and sent to Washington. The company furnishes witnesses for those who have been in its employ five years or longer. This saves the applicants about twenty-five dollars. The cost of naturalization is reduced to the amount of pay lost through attendance at court of the applicant.

At the McCormick Twine Mills:

At this plant, classes in English are conducted four times a week, from 12.00 M. to 12.30 P.M., and in the evening.

A class was organized in October, 1918, and 14 girls attended. In January these students were advanced and organized into another class. They had mastered in that short time a simple working vocabulary in English. They could read, converse and write about their every day life, work and recreation in very simple English.

In January, 1919, a new beginners' class of 40 girls was started. These had no knowledge of English whatever. By February 21st they had learned to write short sentences, read a little and converse in English about simple things.

Aim—to teach the foreigners to understand and communicate with English speaking people; civics, good citizenship, ideals of American life, how to fill out money orders, depositing and drawing from savings account, writing simple letters of application, excuses, etc., reading from newspapers advertisements, signs and bulletins.

Method—dignified approach, making use of objects and pictures, where possible, conversation to be stressed—ears used more than eyes in learning the language—constant repetition, with greatest possible variation. All depends on holding the interest of the class, so themes must not be used to the point of monotony. A vocabulary that will express their wants in natural situations is used to give them the power to impart ideas as well as to understand them. Lessons in advanced classes are dramatized—most pupils lose consciousness of self in dramatization after a few trials when the teacher takes part and a few courageous ones have volunteered.

Two teachers are employed for both day and evening classes, and special text books are used. The average number of women employes in the plant is four hundred, while the average attendance in the middle of February was forty girls at the day class and twenty at the evening class.

Joint Flag Day Celebration:

On June 14, 1918, a Flag Day celebration was held by the Twine Mills and the Harvester Works conjointly. Nearly five thousand employes attended. A member of the Polish Army Recruiting Commission made a stirring address in Polish and created much enthusiasm. An address in English on patriotism and loyalty to America was well received. Every feature of the celebration tended to enhance respect and affection for the American Flag and what it symbolized, and was greatly appreciated.

Conclusions and Suggestions:

The modest efforts described above need little, if any, interpretation. The conclusions to be drawn are fairly obvious. The men and the young women and girls employed in the company's plant have responded splendidly and will continue so to respond to intelligent, tactful, methods of Americanization. They are, or can be persuaded to become interested in English, fundamentals of citizenship and government, and the American customs.

It is the foreign-born woman who remains in the home, works in the kitchen or in the house generally, cooks and washes and takes care of the small children, who cannot be easily reached and assimilated or educated in our ways and customs. If she is ignorant of the language, which she almost invariably is, ordinary evening classes and courses in factories will not benefit her. She requires special treatment, special classes must be organized for her at hours adapted to her duties and ways.

The foreign-born women who stay at home or only accept casual employment are timid by nature and inheritance. They are more isolated and alone than their husbands or their children. When the husband and children learn to speak English, the woman is more isolated than ever. She even becomes an object of good-natured (or ill-natured) contempt.

She is "left behind." She cannot watch over her daughters, their work, their amusements, their companions. Her admonitions are ignored or ridiculed.

To such women the franchise means little or nothing. There are many foreign women to whom to vote means only "dry or wet" cities or towns. They are in no position to learn anything more about our issues and problems. Even in a material way the foreign woman is sadly handicapped by her isolation and backwardness.

At the Deering Works a Serbian woman told a pitiful story that illustrates this. Her husband is too old to learn English. He has tried and failed. He cannot learn enough to obtain naturalization papers under present laws. He cannot answer even a few questions. He owns a home, but as an alien he will forfeit his title to the home if he does not become a citizen. What is she to do? She cannot become a citizen if her husband can't, notwithstanding the fact she speaks excellent English and is an intelligent, well-informed young woman.

The foreign-born woman is not easy to reach, but generally through her children it is possible to gain her confidence. A sincere interest in their welfare enlists her warm sympathy and trust. Once enlisted, there are scores of matters in which she would take interest—health, feeding of children, sanitation, recreation, cooperation with neighbors in club work, citizenship courses, festivals and the like.

The establishment that tries to Americanize the man and the girl employe soon finds that actual harm may be done to the mother at home and that in the interest of family morale, citizenship and domestic peace and order, she too must gradually be included in the scope of the work.

PLAN OF AMERICANIZATION AT THE THOMAS MADDOCK SONS' COMPANY, TRENTON, N. J.

By O. C. SHORT

In starting our work to Americanize the foreign-born of the plant, a census was taken to ascertain the citizenship status of all employes. If an employe had taken out his first papers, we secured the date of such papers and if he had not taken out his first papers and desired to do so, we provided the necessary application blank, assisted him in filling it out and made an appointment with the County Clerk's Office and instituted a follow-up plan to see that the employe kept this appointment or if he did not, what the trouble was.

Then we opened a school in the plant to teach non-English speaking foreigners the English language and to instruct him in the requisites of the machinery of American Government. This school we opened not only to those who had and who were willing to take out first papers but also to those who had not declared their intention to do so and we did not confine membership in this class to employes of the plant alone. As the time for second papers approached we formed a class of those eligible for second papers and gave them very frequent and intensive drills on the machinery of American Government, national, state and local civics, not merely to prepare them for answering the questions before the naturalization judge but to open their eyes to the duties of a full American citizen.

Following this original canvass of the plant, we had printed an application card for all new employes upon which were asked questions to ascertain their citizenship status and such employes were instructed at the time of employment on what the plant's regulations were regarding citizenship. As much as two years ago, by plant regulations, we put up the bars against advancing any employe who had not declared his intention of becoming an American citizen and was making progress toward that end, from advancing beyond a certain point either as to responsibility or remuneration. Recently we have gone a step farther in not employing any foreign-born man who has not so declared his intentions.

The result of our Americanization work has been approximately one hundred applications for first papers and about twenty-five applications for second papers. The attendance at the classes provided for the foreign-born has been very good. The first year there were two classes averaging from twenty-five to thirty in attendance, but recently because of slack work in the plant our number of foreign-born employes has been decidedly reduced, but even now the enrolment in the class is about forty, with an average of from eighteen to twenty-five in attendance.

We believe that this work among the foreign-born has increased their loyalty and given them greater confidence in their employer and greater hopes for their further success in the works.

The classes are taught by men selected by the plant's Educational Director and whose salary is paid by the City Board of Education. All necessary books, supplies, etc., with the exception of those furnished by the Federal Government, are also furnished by the City Board of Education.

PLAN OF ORGANIZING AND CONDUCTING NIGHT SCHOOLS FOR TEACHING ENGLISH AND AMERICANIZATION TO FOREIGN-BORN MEN AND WOMEN AS CONDUCTED BY THE YOUNGSTOWN SHEET AND TUBE COMPANY, OF YOUNGSTOWN, OHIO.

By George B. Fout

First—Cooperation, Officers, Superintendent and Foreman.
Second—Supervisor, Teachers and Janitors.
Third—Building, Class Rooms.
Fourth—Method of Getting Men and Women into the Schools. Holding and keeping the students punctual and regular in attendance.
Fifth—Summary of work. Cost of buildings, Teaching, etc.

First

Methods used to gain the cooperation needed of officers, superintendent and foremen with Supervisor of Schools. Plans and outline of work are talked over at least a month before opening session with the General Superintendent of the mill. After this at his request all department superintendents are called in to a conference at which supervisor gives plans and outlines work to be done by students and benefit coming to the superintendent and department. They in turn call a meeting of the foremen and assistant foremen where supervisor again gives plans of work, showing need of their cooperation. This was done in August and September of 1918 with gratifying results, personal interest being manifested by officers, superintendents and foremen of the whole mill.

Second

SUPERVISOR, TEACHERS AND JANITORS

Great care should be taken in selection of all who are to do the work to see that they are unqualifiedly American, who by association with the foreign-born have gained the proper vision of the work to be done, and see the opportunity of real service to be rendered. Experience has taught us that for the bringing together of the different nationalities, native-born Americans are the most effective in the interpretation of American ideals and the foreign-born people are more willing to adopt those ideals and forget their race or national differences. I mention janitors especially because of the experience gained that a caretaker of building or rooms can by being disagreeable soon decrease attendance upon the part of students at the classes.

Third

BUILDING AND CLASSROOMS

Where the officials of the public school system have the proper vision of the work and have the funds and are willing to expend same, the work should be tied up with the system and carried out by them. On the other hand where they do not or cannot effectively do the work, then proper building and classrooms should be supplied by the company or by the citizens of the community to be served. The Sheet & Tube Company are now furnishing three good buildings for school purposes, and using a parish school building at one point and a public school building at another. All the schools are open to any foreign men or women living in the community. Twenty-five per cent of the students are those who work in restaurants, poolrooms, and barber shops and the remainder are employed by steel or iron plants.

Fourth

GETTING THE MEN AND WOMEN INTO THE SCHOOL AND HOLDING AND HAVING THE STUDENTS PUNCTUAL AND REGULAR IN ATTENDANCE UPON THE CLASSES

Superintendents and department foremen and assistants in the mills are made interested as suggested in article one. In addition calls are made on all the priests and ministers serving these people. Their society leaders should be interested and the school supervisor should make occasion to attend this meeting, both public and private, to instill in them a desire to get what the schools have to offer, advertising, etc. The class spirit and national spirit are all used to good effect in our school for attendance. Monthly reports are sent to the president, vice-president and general superintendent of the mill. Students' record with check number are sent to superintendent of department and their personal interest in the man by word of encouragement has much to do with the regular attendance of the pupil. Socials and two suppers a year are given at which the officers and superintendents with their wives mingle with the pupils and their families. These have done much to bring about a good feeling between employer and employes.

Text Books

BEGINNERS' CLASS

Chancellor's Short Course in English.
English for New American—Sanford Field.
Foreigners' Guide to English—Beshgeturian.
Courtis, Standard Practice Test Arithmetics.

SECOND YEAR PUPILS

Courtis, Industrial Reader.
Carpenter's Industrial Reader.
Plass, Civics for Americans.
First Book Business Methods.
Courtis, Standard Practice Tests in Arithmetic.

ADVANCED STUDENTS

The American Citizen, Dole.
High School Word Book—Sandwich and Bacon.
Sherwin Cody, Business by Letter.
Courtis, Standard Practice Test Arithmetics.

Attendance, Enrolment and Teachers

East Youngstown classes, 11 teachers employed.
6.30 A.M. to 9.30 night turn men, 53 men attending regularly.
7.30 A.M. to 9.00 day turn men, 125 men attending regularly.
Struthers Parish School house, 3 teachers.
2.00 to 4.00 night turn men, 8 men attending regularly.
7.30 to 9.00 P.M. day turn men, 47 men attending regularly.
Enrolment 73.

Camp Dining Room, 4 teachers.
7.30 to 9.00 P.M., 54 men attending regularly.
East Youngstown Young Girls' class—these are employed girls in the store.
1 teacher Domestic Science, School Branches, 15 attending 7.30 to 9.00 P.M.
Hubbard Schools, 3 teachers.
7.30 to 9.00 P.M., 43 men attending regularly.
Office Building, 1 teacher.
16 women cleaners, 4.00 to 6.30 P.M.

Mr. Carl S. Coler (Westinghouse Electric and Manufacturing Company): I think that everybody realizes these days that the matter of Americanism is a very important one. The main trouble is that we are all "passing the buck" on the proposition, not realizing who ought to take charge of the work. I would like to put in a plea here this morning, while we have so many educational men present, that the educational forces in industry get behind this thing, as a part of their job, and use their efforts in starting at once to establish courses in English for foreign-born employes. If every manufacturer in the country would do his share in helping to get the thing across to the foreigners in his own plant, the situation would be solved quickly. By "passing the buck" to the public schools and other organizations, the matter is conducted in a more or less disintegrated way and we do not get any definite results.

Most people hesitate to start this work because they feel they do not know how to teach English to foreigners.

The fact is that the best results accomplished in this country have been accomplished by teachers who do not understand or speak any of the foreign languages and who to begin with did not know how to teach. Start right in talking English, and get across enough words so that the foreigner can understand and learn more by himself. In general, the foreigner is intelligent. He learns readily; much more readily, in fact, when it comes to languages, than our Americans. Only four or five hundred words are necessary to carry on ordinary conversation. In this report there is a list of less than one thousand words which practically covers all those which the average foreigner needs, at least enough so that he can learn the rest for himself. After this he can get acquainted with our American ideals and customs and go ahead with the Americanization more or less under his own power.

I would like to leave this one impression with you this morning: Let each person interested in this subject go back and start doing something, even if he does not get the active cooperation of the public schools or other people who might be interested. Go ahead and start your own teachers on a small plan, and while the work, at the beginning, will look insignificant, it will grow, and your experience will grow, so that next year, when you come here, you will be able to say "We have done something."

CHAIRMAN BANKS: There are two main objects in the teaching of English to the foreign-born; one is in teaching matters of efficiency and safety, and the other one is the establishment of sympathetic relations with the foreign-born. We should take care of both phases of the subject. You can hardly appreciate, unless you try it, how easily you can establish such relationship, and how much good will come from it, particularly if you get your foreign-born priest and the leader among the foreign-born to help you out. They will do almost anything for you, no matter how bigoted a Protestant you may be yourself, and no matter how much he may be a Catholic, even a Greek Catholic, the priest will help you out in taking care of his people. The ordinary foreign-born priest has a good deal more control over his people than the ordinary American pastor, and he does it usually in a pretty fair sort of way.

Another thing is that we need books in this line. We have no good books for the teaching of English to the foreign-born. We have some attempts at such books, but a good book should be gotten out that will give all the necessary information to the organizations who want to take up this work. Some of you, when you get started, will get so enthusiastic over the thing you will want to put out a book of your own. If you want to do so, go ahead, but there will be some of you who will not desire to do that, and it should be a book gotten out which will have a general outline of the work to be done, and contain a general vocabulary to cover the needs of this work.

I would like to have some further discussion on this subject. Mr. Nigosian, of The B. F. Goodrich Company, is here and we would like to hear from him. He has started in on this work, but he is allowing the public schools to do the preliminary part of the work, and I would like him to say what he thinks of the success of that plan, and if he has any further views in mind for the future.

MR. A. A. NIGOSIAN (The B. F. Goodrich Company): The Goodrich Department of Education was organized about two years ago. During the past two years about three thousand of our employes have taken advantage of the educational opportunities offered by our company.

The policy of our company has been to run the school on a voluntary basis. Therefore, (a) attendance is not compulsory in our school. (b) Employes come to school on their own time rather than on company time. (c) We do not ask any tuition fee in Americanzation classes. However, aside from the Americanization classes we have developed what we call Engineering Classes, which include courses in Mechanical Drawing, Sheet Metal Drawing, Shop Sketching and Blue Print Reading, Shop Mathematics and Tracing. In these courses a nominal tuition fee is charged.

Our company does not guarantee any promotion or transfer to the employes attending Americanization classes. But the engineering students stand a very good chance for promotion or transfer. There is a Committee of Three consisting of the head of the Educational Department, head of the Labor Department and manager of the department where the man is employed. At the end of each term scholarship and standing of each is examined by this committee and if the students have qualified themselves they are either promoted or transferred according to their merits.

The *administration* and *actual operation* of Americanization work is at present conducted on a cooperative plan with the local Board of Education. The Board of Education assumes the responsibility of training teachers, paying and supervising them, while the industry furnishes school accommodations and the educational staff to organize the classes. I will not go into the details of this plan, which is only an experiment, and will not be partial to it as the best plan of Americanization work, neither could I offer it as a formula to be applied in any and every community.

I have heard quite a few discussions on plans and policies in the Americanization conference held at Washington. I was very much impressed that everybody was doing Americanization work, but everybody was doing it their own way, and although our purpose was to coordinate methods, plans, and policies, yet we could not accomplish it in a few days. Possibly we will not be able to accomplish it in a few months or a few years. We need a sympathetic and scientific study of this problem, and we have to coordinate the work if we desire to get results.

As long as attendance is not compulsory, our major problem is to recruit new students and follow up absentees. In order to do this in an efficient way, recently we have assigned what I call educational workers in different departments of our plant. Our plant is large. There are about fifty different departments on one hundred acres of ground, and the foreigners are scattered in every department, although they are concentrated in some departments more than in others. Therefore, we have to reach them where they are employed. So, besides our Central School, we have organized Departmental Schools. I cannot go into details of our functioning through our educational workers. All I can say is that it is bringing excellent results. It is their work to recruit, if possible, every new employe in the plant and invite them to school but not compel them. In case they are absent they follow them up by a personal interview, find out the reasons for absence and mark it on our Attendance Inquiry Sheets. These educational workers form a kind of Educational Council, as you may call it. They come to my office every week for conferences and we discuss our problems in common.

Now as to the *results*. Our purpose in establishing a Department of Education was to bring the employe and employer closer together, and I believe the best channel to bring the employe and employer together would be to create an Educational Department in each industry where, say, there are over 500 men employed. We found out that we have to educate the higher-ups of our organization as well as the rank and file. In other words you have to sell the school idea to your managers, foremen and inspectors. It takes some time and real effort. However, in our case we did not find any difficulty in selling the idea. This was because the administration had a favorable attitude towards this work. The second vice-president of our company, in charge of the plant administration, is deeply interested in this work, and this has meant a great deal in getting actual results.

MR. L. E. BARRINGER (General Electric Company): If I recall correctly your synopsis of the report, Mr. Chairman, you made a remark about the corporation being able to conduct Americanization work somewhat better than the public schools. Personally, I can see no relation whatsoever between what the corporation should do and the public school should do, and the failure to draw a line between these fields makes the whole question of corporation teaching and outside instruction very much confused. There seems to be a lack of clear understanding as to what each should accomplish. The public schools *are* Americanization work itself. The war has not made Americanization any different. Some people say our general system of education must be changed. If the general system of education must be changed, it was not right before the war, and is no more right today. Public instruction takes a child from the moment it begins to go to school, and both "Americanizes" and educates it. Our children would be savages and worthless citizens if we did not give them instruction at public schools. The corporation deals with a different class of people, foreigners who are beyond the school age. The school does not pretend to reach that class of young men and young women, the older people, so there is a sharp demarcation between the work which can be done by the corporation and by the schools.

The only work in which the two systems of education would probably overlap is that of the night schools, and there might be an open question as to whether the corporation can or will do the work, or whether the school can or will do it. The last gentleman who spoke said that the school system hired the teachers and laid out the courses. I do not see that much else could be done as long as the matter is in the hands of the Board of Education.

A little apart from the Americanization scheme are such subjects as will be taught at the continuation schools, and I think the corporations and the schools are on dangerous ground in both trying to do the same thing. It would be, in my opinion, more advantageous for each one to do one thing or the other. When the junior high school comes in as an intermediate agency of education, that will bridge the gap between fourteen and eighteen years of age, the age at which a child may legally leave the public school and may legally be employed by a corporation, and it is up to the corporations to see that the intermediate school, i. e., the junior high school, is generally made a part of public instruction, since it can do the work far more adequately than any corporation does. There is no doubt about it.

The "Americanization" we have in mind usually is not strictly Americanization. The teaching of the English language is not Americanization. The mere fact that a corporation instructs its employes to become familiar with the names of different parts of its apparatus, and to refer to these parts in English, is not real

Americanization. That is an extremely narrow and inadequate conception, and a selfish conception. Americanization should carry with it some attempt to give the ideals of this government a clearer exposition, to bring them to the attention of the foreigner, and that cannot be done very readily by corporations. As a matter of fact, I think the subject of corporation education sometimes narrows down to altogether too small a range and the fact that in some cases a man can turn a piece of metal 56 inches in diameter down to within .001 of an inch, is a splendid thing for that corporation, but that is not education by a long shot. That may suffice for that particular corporation, but for another corporation, something else would be necessary.

My plea for Americanization is to first give some clear digest as to what Americanization is to be, how it is to be applied, and then in what way. I think most of us speak of Americanization in such a loose sense that we are not sure what we do mean, and the Committee could formulate some objective field, and to go further, I think there should also be a formulation of the objectives of corporation education.

CHAIRMAN BANKS: I advise the gentleman to read this report carefully, as I believe it gives exactly what he has referred to. The teaching of English is part of Americanization. I dislike the last term myself, but we were forced to use it. I wish we could have some other word.

A certain large rubber company which went out of the fold for a year or two, I am glad to welcome back to the fold, for the sake of the company and the sake of its representative here. I would like to hear from Mr. Craigmile, of The Goodyear Tire and Rubber Company.

MR. H. S. CRAIGMILE (The Goodyear Tire and Rubber Company): I was somewhat astounded at some of Mr. Banks' remarks a short time ago, but I went out to see the parade, and they had slipped my mind. I do not believe that the public schools, in the first place, have failed in teaching Americanization. Mr. Banks remarked that the public school can do nothing more than start the thing. He further remarked that he did not feel that he could trust the public school teachers to teach the aliens. It was brought out in Mr. Coler's remarks that a thousand words at the utmost were necessary to teach the alien a sufficient amount of English to "get by" in ordinary conversation. I would hate to think that the average school teacher in our city was incapable of teaching a student a thousand words.

In Akron there are a number of large rubber companies, all of which have been doing more or less Americanization work. We went at it from one angle, the Goodrich Company from another angle, and some of the other companies from other angles. Of course, we have different processes in our factory, we have different methods of handling the product, and so, if we stuck particularly to our own special methods, we would necessarily handle our classes somewhat differently than other companies would. We decided some time ago that, in order to correlate our best efforts and coordinate the various teaching problems, the best thing to do would be to get together on the proposition, and we organized an Americanization Committee of 100. I am very sorry that Mr. Banks dislikes the word Americanization. I think, myself, that the alien in our midst can hope for nothing more in advancement than to become an American (applause). The popular use of the word Americanization is that of an adjective describing this process (applause).

Some time we may be able to think up a better word, but I do not like to hear anyone say they dislike the word Americanization. I am afraid that Mr. Banks will feel that I am sneaking up behind him and sticking a knife in his back, because I happened to be a member of his Committee for a year or two. I will admit I was possibly somewhat reactionary.

To resume, after getting together the Americanization Committee of One Hundred, we decided it would be necessary to have a neutral ground on which to work. You may, perhaps, be aware that there is considerable rivalry between the rubber companies in this country inasmuch as they are engaged in a new business, and are continually developing what are thought to be secret processes, though they very often fail to remain secret for any length of time. However, we decided that in order to get the work done it would be necessary to have some one agent which we could all help to put the work across, and decided that the proper agent was our public school system. We are proud of our public school system in Akron, and we feel that all of our teachers are capable of teaching aliens at least one thousand words. Furthermore, those who are engaged in the teaching occupation in Akron have to deal with all the foreign children, and we feel that that gives them an entering wedge into the family to begin with. If the teacher makes an impression on the alien child, it stands to reason that, when the child goes home, and demonstrates his proficiency to his parents, they will become interested in what their child is endeavoring to make of himself. If he was born here, he is of course already an American. If he was not, it is the function of our public schools to make an American out of him (applause).

CHAIRMAN BANKS: Mr. Cobaugh is going to start something at the Midvale Steel and Ordnance Company. I should like to give him thirty seconds to tell us what he has in mind to do.

MR. E. S. COBAUGH (Midvale Steel and Ordnance Company): I have not anything in mind to do—I want to get it here and take it home with me.

CHAIRMAN BANKS: Mr. Dallas.

MR. HERBERT A. DALLAS (Massachusetts Board of Education): Mr. Chairman, Ladies and Gentlemen—As representative of the Massachusetts Board of Education, I came here to listen, but I feel that I cannot allow this opportunity to pass without telling the delegates what Massachusetts, a pioneer in all things, is doing in the Americanization movement.

We have a specialist in charge of our Americanization work. One of his duties has been to outline what we call "The Federal-State Program." In this we endeavor to show how industries, the Y. M. C. A., the Knights of Columbus, and similar organizations engaged in the education of the foreign-born, may cooperate to head up the work through the public school.

In Massachusetts we are thorough believers in public schools, just as they are in Akron, Ohio. Referring to the employment of day school teachers in the education of the immigrant, I admit that at first I was somewhat skeptical of their ability to teach English to foreigners successfully. I was instrumental in organizing six classses among the foreigners at the American Optical Company, of Southbridge, Massachusetts. Somewhat reluctantly I agreed to the appointment of day school teachers as instructors, but after visiting the classes one evening I was converted to the policy of employing day school teachers to teach English to the foreign-born. I believe that teachers are not only born, but they are also made, and no matter how well one may think he can teach a subject, he should have some training on the methods of teaching. This the day school teacher ordinarily has.

In Southbridge they segregate the races and have small classes of ten or twelve students for each teacher.

We offer courses in the Methods of Teaching English to Foreigners where fifteen or more persons wish to take up the work. Classes are formed in any part of the State in which there is a demand. Foremen and others holding responsible positions in industry who are naturally qualified to teach the subject after a short normal course make excellent teachers. All individuals and organizations interested in Americanization in Massachusetts are endeavoring to work together, and deem it advisable to head up this movement in the public school through the cooperation of the State Board of Education.

We have prepared two courses of sixty lessons each in English for the foreign-born: one for Men and Women in Industry; the other for Women with Home Interests. If anyone wishes a set of these lessons and bulletins descriptive of the work, I shall be glad to have him write to me at the State House in Boston.

CHAIRMAN BANKS: There are only three or four minutes left. The State of Massachusetts, as represented by the last speaker, is the one we speak of on the first page of the report. I did not mean to imply that the women teachers could not teach a thousand words. It is the ordinary shop vocabulary that the public school could not handle.

I am told there are some teachers here from public schools, and we will be glad to hear from them on this work, not as to the ability to teach the thousand words, but what they think of the matter as a whole.

VICE-PRESIDENT KINCAID: Our time for this paper is up, a little past, but it is very interesting. I am informed that a number of the teachers from the public schools here in Chicago have been invited to attend this meeting, and I would like to know if there are any of them present. If there are, we would like to have them show their hands. (No hands were raised.) If there are any teachers here who would like to speak on the subject this morning, we would be glad to extend to them the freedom of the floor. I do not see any hands raised, but perhaps there are some here who are too modest to raise their hands. I think the time has come to close this report. Mr. Banks, do you wish to say anything further?

CHAIRMAN BANKS: It was insisted by the public schools, as I understand it, that we had no right to even coax a foreigner to learn English, much less compel him to do so. From the standpoint of the government and the public school that may be, but from the standpoint of industry, we have a right to not only coax but even compel a man to learn English, if we pay him for his time.

Incidentally, as to the word "Americanization"—I do not wholly like it, because we imply in that that we think that we have the whole thing to give to the foreigner and that he does not give us anything.

MR. CRAIGMILE: Do I understand this discussion is closed?

VICE-PRESIDENT KINCAID: Have you anything to say?

MR. CRAIGMILE: I am sorry to have Mr. Banks shut me off, and I wonder, if I am good this time, if he will give me an opportunity to close. I think I have something to say of interest to all present.

We decided through our Committee of One Hundred to handle our Americanization problem in this way, and I ask you, Mr. Banks, to take careful note that we arranged to help the public school teachers handle the factory vocabularies. In each plant a Director of Americanization was appointed. These directors serve two masters in a common cause, in that they also report to the Assistant Superintendent of Schools in the city.

Our company has provided rooms for the instruction of aliens. The city furnishes the teachers and most of the instruction work. We furnish a number of lessons upon the manufacturing details of our plant, so that we are able to couple with the work of the city teachers the words that we want these foreigners to learn, and which will enable them to operate more efficiently in our plant.

Meeting adjourned.

COMMITTEE ON CONTINUATION SCHOOLS

DR. PAUL KREUZPOINTNER, *Chairman*
THE PENNSYVANIA RAILROAD COMPANY
Altoona, Pa.

MR. E. G. ALLEN
CASS TECHNICAL HIGH SCHOOL
Detroit, Mich.

MR. R. L. COOLEY (deceased)
CONTINUATION SCHOOLS
Milwaukee, Wis.

MR. GEORGE W. DAVIS
PENNSYLVANIA STATE COLLEGE
State College, Pa.

DR. D. LOUIS IRETON
NATIONAL LEAD COMPANY
111 Broadway, New York City

MR. H. V. R. SCHEEL
BRIGHTON MILLS
Passaic, N. J.

MR. STEWART SCRIMSHAW
INDUSTRIAL COMMISSIONS
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THURSDAY—MORNING SESSION

CONTINUATION SCHOOLS

THURSDAY MORNING, JUNE 5, 1919

VICE-PRESIDENT KINCAID, *Presiding*

VICE-PRESIDENT KINCAID: We come to the last paper of the morning, entitled "Report of Committee on Continuation Schools," Dr. Paul Kreuzpointner, Chairman. I regret to say that the chairman of that committee is not here. Mr. Stewart Scrimshaw, a member of the Industrial Commission of Wisconsin, who is a member of the Committee on Continuation Schools, will present the report.

MR. STEWART SCRIMSHAW (Industrial Commission of Wisconsin): I have charge of apprentices throughout the state of Wisconsin, and I do my work under the Industrial Commission of Wisconsin. I wish to say that this subject of Continuation Schools as presented by the committee is more important to the welfare of the educational activities of The National Association of Corporation Schools than might at first seem apparent. Some time ago, when this Association first took up the matter of education, the Federal Government had taken no part in this matter of vocational or continuation school work, but a great many developments have occurred since this Association took the lead in getting the manufacturers throughout the country interested in educational matters.

Now, you will appreciate, if the activities of this Association are to bear proper fruit, there must be no feeling engendered between the activities of this Association and the activities that are inaugurated by public institutions.

Some states have had a forward program in continuation schools which are called vocational schools. That term has been adopted by the Federal Government, and state governments, and the term "continuation schools" is practically out of date. Some states have adopted complete systems of vocational education, and the Federal Government since then has entered into a very elaborate system of subsidizing vocational work throughout the United States.

Now, some of us who have been working along professional educational lines, vocational work or otherwise—and we are not all theorists—have been very close to certain forces in industry, and realize there is a lot of talk and a lot of prejudice about the functioning of corporation schools. That is unfortunate, but we realize it is a fact, and if vocational education is to succeed, it must have the goodwill of the people whom it attempts to educate.

Who are these people? They are not the people in the high schools and colleges and technical schools—they only represent ten per cent of the population or less. It is the great ninety per cent of workingmen and women who go into industry that the vocational schools are interested in, and that The National Association of Corporation Schools is interested in. You see that common ground.

Would it be wise if the activities of this Association were to be such as to render a certain feeling of prejudice on the part of public institutions against the work of The National Association of Corporation Schools, and if the feeling between these two forces were not in harmony, how could the best interests of the country be served?

We all have a common object, and when we went over this report we wanted to clear the ground to see what interests we had in common, to point out where there were differences in policies, if any, to present to the Association the principles involved in this national system of vocational education.

Now, we people who are in the professional end of the work get a tremendous amount of encouragement and enthusiasm from meeting and exchanging views with the practical business men who are interested in this problem. We want your assistance to effect a coordination between these forces, to get together the educational and the industrial interests. If we can get this cooperation, we will be able to make our work so much more satisfactory.

In our State we have, incidentally, a compulsory system of vocational education which takes care of this ninety per cent of all of the people who are not in some regular institution, i.e., those under the age of seventeen years. They are now required to take up certain studies of a vocational character, and to spend eight hours each week in a public vocational school.

I hesitate to differ with the gentleman who says that the Commonwealth of Massachusetts is first in everything. As a matter of fact, however, there is no other state which has gone so far as Wisconsin in vocational education.

I started to say that in Wisconsin we have certain prejudices arising at times with reference to an institution set up in a corporation factory, for the purpose of education. In some quarters this has arisen on the part of organized labor. Organized labor sometimes asks the question: "Is a school established in a factory a good thing for the people as a whole?" "Is not that manufacturer trying to instil into the minds of these fellows some sentiments against organization, and trying to school the employes in certain directions?" We know a lot of this talk is foolish, but it exists just the same. What we have to do for the common good is to have recourse to psychology—we must talk to these people, we must overcome the prejudices which they have, and educate them out of impressions that are wrong. Of course, if perchance they should have a point of view which is right, then we must appeal to the corporation to see the justice of their position, so that the ideas of ultimate public good will prevail.

The Federal Board has recognized this situation, I think, and the Continuation Schools generally see it, but all agree that there is a place for corporation schools. However, many other fine institutions in our society that have started out under private auspices have been taken over by the public and their functions greatly extended. This may happen in some quarters with corporation schools.

Now, the time may come when the functioning of these corporations represented here today in the educational field may be diminished, in the sense that they will have functioned to the point of shifting the responsibility of education over to the public where it properly belongs. That day is not yet here, but some day it may be. In the meantime, and also thereafter, there will be plenty of work for this Association to do.

Your committee wants you to peruse this report and to note the point of view of The National Association of Corporation Schools, and that of educators, to see how closely we can work on the common cause. The Federal authorities, as I suggest, see clearly on this proposition, and they think that these schools can be encouraged by the public authority, and may be assisted. They say that since it is a public burden to educate people, the public may provide the teachers in these schools, or, if the industries are adapted to take care of their people to the best advantage, then the schools in some of these plants can be even supplemented. Not necessarily all of them, but some of them can be supplemented by the public teachers. As a matter of fact, we have done some of this in Wisconsin. Moreover, the Board of Vocational Education goes in and takes a man out of a factory, that the corporation itself would wish to retain in its own work, and pays that man, and continues him in his work in the factory. In this way these schools in the factory get a little public supervision, and it may be done with the intention of seeing that some other things are infused into the education besides some mechanical operations which can have no advantage except to the employer alone.

The employer is a citizen as well as an employer, and the enlightened employer does not object to the public coming in and supplementing his efforts, and we feel most strongly that there should be nothing but cooperation and a spirit of mutual helpfulness existing between the public school system and an Association of this kind, and the educational work carried on independently in industry. There is no need for friction, and we have all got to get together and eradicate the false prejudices that may exist.

How could any enlightened man, after hearing this morning's program, get up here and say that this Association was establishing schools for unskilled laborers, etc.? We know it is not so, and those of us who have the confidence of employes in different places must see to it that our influence is exerted to build up harmonious relations between the public systems of education and the enterprises of the progressive and enlightened manufacturers, so that we can pull together and accomplish the most for the general good.

If there is anyone who is familiar with this report on continuation schools, or familiar with the points involved, we would like to have him come forward and discuss his report.

REPORT OF COMMITTEE ON CONTINUATION SCHOOLS

Introductory

Your committee having been charged "To study the application of the Smith-Hughes Vocational Educational Law and other continuation school developments," respectfully reports that, since the previous report of your Committee on Continuation Schools and on the application of the Smith-Hughes Law, the Federal Board for Vocational Education has systematized its work very materially and has adopted a highly commendable working basis as far as the law will permit them to go.

Various decisions have been rendered, clarifying doubtful meaning concerning some disputed phraseology of the law, thus making it safe to draw conclusions when considering the application of the law.

The war demanded extraordinary exertion on the part of all educational agencies of the country along vocational lines for military purposes, furnishing to the Federal Board for Vocational Education unexpected opportunities to meet the critical vocational educational situation in a highly creditable manner by the issuance of numerous bulletins for the guidance of vocational schools, pertaining to the emergency training of army mechanics and likewise aiding materially in the re-education of disabled soldiers and sailors to assist them in finding new and suitable occupations. Thus, your committee is better enabled this year to judge more definitely of the applicability of the Smith-Hughes Vocational Law to the manifold educational demands of industry and commerce.

This is all the more appreciable since the war has effectively changed and intensified the industrial-economic conditions of every country. As a consequence the means of production will be strained to the utmost with its necessary exchange of raw materials and interchange of goods upon a large scale. This in turn will require the development of the mental resources of every country involved along vocational lines, either industrial or commercial, as indeed provisions are already being made in the principal industrial countries for that very purpose.

As a corollary, the country whose native talents are prepared by the most suitable and effective means and educational facilities to meet the demand for maximum of quantity and quality of production and exchange in the domestic and the world's markets at a minimum cost of production in materials, in time and expenditure of mental and physical energy, will win out.

If the wealth of resources and native ability which is at the disposal of the industries and commerce of the United States is matched in the struggle for existence by the expenditure in other countries of two, three or even four times more in money for vocational education of the industrial masses of their respective countries with the additional advantage of their people's minds, habits and training easily submissive to discipline and economic scrutiny, due to a thousand years of economic pressure, then it is worth while to carefully measure one's strength and ability. If, before the war, the city of Munich spent thirty-one dollars per boy, from 14 to 18 years of age, in her continuation schools, with two-fifths and three-fifths of American wages, and the great and wealthy State of Pennsylvania spends five dollars per boy, from 14 to 16 years of age, in her continuation schools, then a blind man can see where the eventual advantage will be found.

Applicability of the Smith-Hughes Law to Corporation Schools

The provisions of the law having been explained in a previous report of your committee no further reference will be made in this report concerning the administrative details of the law.

In the previous report it was intimated that the Smith-Hughes law was not applicable to corporation schools because of the required supervision by the public school authorities.

However, as a result of the practical application of the law, various decisions were rendered by the Federal Board for Vocational Education, defining the provisions of the law and their practical application. Accordingly, corporation schools may participate in the distribution of the Federal appropriations through the establishment of part-time schools.

Definition of Part-Time Schools

The Federal Board for Vocational Education interpreted the phrase, "who have entered employment," as follows: "Where persons, definitely scheduled for employment in a trade or industrial occupation, by a written agreement with the employer, are given, before being employed, instruction in a class fitting them for advantageous entrance in such trade or industrial occupation, such class may be considered a part-time class and Federal money may be used for its support, under the provision of section 11 of the vocational education act."

"Such classes may also be open to those already employed, who may receive better preparation in the occupation they are already following, or promotional training for a new occupation."

Note 1. Such part-time classes may be carried on in the school, in the shop, in class rooms adjoining the shop, in a building near the shop, or elsewhere.

Note 2. The instruction may be either manipulative in processes, or related to processes, or both.

Note 3. Reimbursement may be made from Federal funds for one-half the salary of the instructor employed in this work, including the coordinator.

Note 4. The courses may be given once, twice, or more times each year, or may be operated continuously.

Note 5. The scheme adopted for training must establish the presumption at the outset that it will give advantageous preparation for or advancement in the occupation in which each pupil is to be employed.

Further (1) Federal moneys may be used in part-time schools and classes for the salaries of instructors in trade, home economics, industrial, commercial and general education subjects, as provided hereunder.

(2) Such part-time classes must be classes which divide the working day or school time between instruction and practical work in shop, factory, home, or office, etc.

(3) The subjects taught must be such as are designed to "increase the civic and vocational intelligence of the pupil."

(4) Federal moneys may be used for the payment of the salary of an instructor only in cases where it is shown that the cost of such an instructor represents an addition to the expenditure of the school system incurred because of the operation of such part-time classes over and above the expenditures for regular classes.

(5) Where such part-time pupils are taught in the regular day classes already established so that the class does not represent an additional class to the school system. Federal moneys

may not be used for the salary of the instructor of such class.

(6) Part-time schools or classes may be operated for persons over 14 years of age, without upper age limit, provided that the instruction given is designed for and suitable to enlarge the civic or vocational intelligence of the workers over 14 years of age and less than 18 years of age.

(7) In the plans from the states two general groups of teachers shall be recognized and qualifications set up for under part-time schools and classes:

(a) Teachers of subjects designed to enlarge the civic intelligence.

(b) Teachers of subjects designed to enlarge the vocational intelligence.

All classes must be organized under the following provisions:

First, that the class is under public supervision and control;

Second, that the controlling purpose is to fit for useful employment;

Third, that all instruction is of less than college grade;

Fourth, that the instruction shall be for persons over 14 years of age;

Fifth, that every dollar of Federal funds expended for salaries for teachers is matched by a dollar of state or local money or both;

Sixth, that the class provides for not less than 144 hours of instruction each year; and

Seventh, that all the other requirements of section 11 of the Federal Vocational Act must be observed.

Types of Part-Time Schools or Classes

In the provisions of the act three types of part-time schools or classes are clearly indicated:

1. Schools or classes for those who have entered employment giving instruction in the trade or industrial pursuit in which they are employed. (Trade extension part-time schools or classes.)

2. Schools or classes for those who have entered employment and who wish to fit themselves for a trade or industrial pursuit other than that in which they are employed. (Trade preparatory part-time schools or classes.)

3. Schools or classes giving subjects to enlarge civic and vocational intelligence, i.e., to extend general education or to help in

the choice of a vocation. (General continuation part-time schools or classes.)

The foregoing definitions are taken from Bulletin No. 17, Pages 68 and 69. Trade and Industrial Education Series No. 1. Federal Board for Vocational Education.

Decisions Not Objectionable to Corporations

It will thus be seen that the decisions and interpretations of the Smith-Hughes Law by the Federal Board for Vocational Education are liberal and acceptable to corporation schools, always provided:

First, the school be under the supervision of the public school authorities;

Second, the time devoted to instruction be not less than 144 hours;

Third, the instruction confine itself to the limits prescribed by the type of school or class:

(a) Trade extension part-time school;
(b) Trade preparatory part-time school;
(c) General continuation part-time school.

The first would be applicable to a type of corporation schools the aim of which is narrow, specific trade training and its extension in that direction. The object would be to increase the mechanical skill or related knowledge along the line of a particular occupation, offering opportunity for promotion. The second type of part-time schools is applicable to corporation apprentice schools or where the extent of the concern requires several trades within the concern to produce a finished product. Thus, opportunity is offered to find the most suitable talent for a given occupation while offering the opportunity for occupational progress and promotion.

The third type is particularly suitable for commercial concerns and in fact has already been applied in that direction under the supervision of the public school authorities.

The question with corporations whether to submit to the Smith-Hughes law in conducting shop schools lies in the feasibility of adjusting the educational requirements of the corporation to the educational plans of the respective State in which the corporation is located.

The law provides that all schools participating in the Federal appropriation must be under public supervision or control.

This excludes all private and corporation schools unless a corporation submits to this provision of public control. This would mean the approval of the course of study by the public school authorities, either State or local. It does not necessarily mean public school teachers for the corporation school, but it would mean whether the teachers provided by the corporation would be acceptable in every case to the public school authorities that is, entitled to pay for instruction by Federal appropriation This would have to be decided in each individual case. Your committee is convinced that no formidable obstacle would be encountered by corporations wishing to make use of the Smith-Hughes law when desiring to establish part-time schools or classes.

Advantages

The advantage to corporations of establishing upon its premises either one of the types of part-time schools mentioned, in accordance with the provisions of the Smith-Hughes law, would consist not only in the reduction of the cost of maintaining the school, or schools, by the amount of appropriation received from the Federal funds, but the closer connection and cooperation between the corporation management and the school authorities would go far to establish friendly relations and mutual understanding where heretofore there had been misunderstanding and lack of confidence.

Such cooperation would also tend to a more general demand for compulsory State laws up to 18 years of age and lead to a more uniform distribution of the most suitable types of vocational schools, adaptable to local conditions. This, in turn, would react favorably upon industry and commerce by saving much of the cost of breaking in new employes which now is a consequence of abnormal labor turnover which is a demoralizing and expensive feature in the industrial life of the Nation. The desire for change being as much a psychological characteristic of the people at large as the supposed desire for immediate gratification of financial betterment.

Disadvantages

The disadvantages for corporations in submitting to the Smith-Hughes law may be found in the control of the school, or schools, by the school authorities who may not grasp the actual needs and peculiarities of the educational situation of the shops, or who may not be broad-minded enough to interpret the provisions of the law in terms of the best interests of all concerned, being inclined to be bureaucratic if not reactionary in their dealings. However, tendencies in that direction would soon crop out, if not known previously, and connection could be easily severed if found desirable. Under all circumstances it will probably be found that in the interest of the economic welfare of the country at large, both sides will have to make concessions and exercise judgment, good will, and foresight in order to foster the development of an efficient inclusive National system of vocational education for the youth of the country.

Controlling Purpose

To recapitulate, quoting from Bulletin No. 19, page 32:

"The controlling purpose must be to fit for useful employment, thus excluding all types of manual training schools, and general education schools when not definitely fitting for some productive employment. The work again must be of less than college grade and thus leave out of account the technological institutes, engineering colleges and state agricultural and land grant colleges. 'It is provided further that the "subjects in a part-time school or class may mean any subject given to enlarge the civic or vocational intelligence of such workers over 14 years of age and less than 18 years of age.' "

"This provision leaves the State free to open part-time trade extension, part-time trade preparatory, and general continuation courses, and to receive Federal aid for such classes in any such course designed to contribute directly or indirectly to the civic or vocational up-building of students between 14 and 18 years of age."

Bulletin No. 19, page 36:

"Federal moneys will be used to pay the salaries of teachers employed in the part-time schools or classes where wage working boys and girls receive any or all of the following benefits:

A. Increased skill or knowledge in the occupation which the wage-worker is following.

B. Skill or knowledge leading to promotion in the industry or calling wherein the wage-worker is engaged.

C. Improvement in the knowledge of regular subjects which the wage-worker did not complete in school.

D. Increased civic or vocational intelligence.

E. Skill or knowledge in home economics for girls employed as wage-workers.

From Bulletin No. 17, page 70:

"Unquestionably the feature of part-time schemes of instruction which makes such schemes of immense popular interest and of far-reaching social value is their dependence upon cooperation between schoolmen, employers and laborers, that is to say, upon cooperation which is in the largest sense social and which embraces the entire population."

Continuation Schools

In addition to the duty of studying the application of the Smith-Hughes law, your committee is also charged with the study of continuation school development.

Here arises the legitimate question as to the difference between the Federal supported part-time schools and non-supported private or public continuation schools.

In order to be clear upon this point of difference between the two kinds of schools, your chairman asked the favor of a decision from the Federal Board for Vocational Education.

In this connection your chairman desires to acknowledge the uniform courtesy, promptness and satisfactory information received at the hands of the Board while carrying on frequent correspondence during the year, their information being frank and to the point.

Difference in Method

While there is no fundamental educational difference between Smith-Hughes supported part-time schools and non-supported continuation schools there is a difference in so far that the part-time school is strictly held to a well-defined line of vocational instruction while a continuation school may or may not confine itself to instruct the pupil in the occupation he, or she, is engaged in, branching out in other directions of instruction according to the scheme of schooling adopted by the management of the concern, if the school is supported by a corporation, or according to the course of study for public continuation schools, adopted by a state or city, if the school is supported by state or municipal appropriations.

In a larger sense than is expected of an occupation training part-time school the continuation school attempts to use the daily occupation of the pupil as a means to the end of also training for useful, intelligent, soundly reasoning citizenship and civic cooperation, at the same time developing the habits of industry, perserverance, accuracy, observation and economy, so that he may grasp not only his vocational but also his moral and civic duties and responsibilities and rights, thus enabling him not only to earn his bread and butter but to understand the meaning and import of everyday social and economic questions.

One of the functions of continuation school education should be not to lay exclusive stress upon the development of inherited habits and mental traits, like inventive talent and mechanical ingenuity. If too much attention is paid to these, already well-developed mental traits the development of other, dormant talents and faculties, are neglected and this value is lost to the pupil, to the industry and to the community at large.

Continuation school education is particularly adapted for the great mass of semi-skilled and unskilled workers. For the brighter ones and mentally gifted ones of these the continuation school ought to be a means and agency for occupational and social advancement to the top.

Extent of Continuation Schools

While the Smith-Hughes law has been accepted by every one of the forty-eight states of the Union, up to the time of writing this report only seven states have had state laws establishing compulsory continuation schools in some form, either making its provisions uniformly compulsory over the whole state or leaving their establishment to cities when, by its adoption, compulsion becomes operative. The Wisconsin law compels all employed children from 14 to 17 years of age to attend the continuation schools eight hours or one whole day per week. The Pennsylvania law establishes continuation schools for twenty or more employes in a community from 14 to 16 years of age, with eight hours per week of attendance. The Massachusetts law leaves it to the cities to adopt the law and to make its provisions compulsory for employes from 14 to 16 years of age. However, at the time of this writing the State Commissioner of Education of Massachusetts proposed to ask the Legislature to make the law mandatory that permits the cities to maintain vocational schools. New York has a similar law.

The Indiana law provides part-time classes with compulsory attendance from 14 to 16 years of age, leaving it to the local authorities to establish such schools.

In Ohio continuation schools may be established by local boards for employes over 15 years of age. If such school is established attendance becomes compulsory for eight hours per week.

In this connection it may be of interest to mention the growing demand of the labor unions for vocational schools which, if intended to increase the efficiency of the workingmen commensurate with the higher cost of production, is a very hopeful sign of labor recognizing the necessity of an improved educational system for its own and the country's sake.

With the strenuous efforts being made in allied and enemy countries, as already pointed out, to improve their educational systems, the cooperation of labor in the United States for this purpose is to be welcome.

At the St. Paul meeting of the American Federation of Labor resolutions were passed urging reorganization of the schools. Paragraph 1 of the resolution reads: "The development of vocational guidance and industrial education in both urban and rural communities, in proper relation to each other and to the needs of our democracy."

The New York State Federation of Labor likewise passed similar resolutions at its meeting at Rochester, N. Y. Paragraph 1 reads as follows:

"A state law establishing compulsory continuation schools for children who leave school up to 18 years of age, of not less than eight hours a week, study hours to be between the hours of eight a.m. and five p.m., Saturdays excepted."

At this writing the State Federation of Labor has also bills prepared to make continuation schools compulsory in the State of New Jersey.

Neither with the state nor with communities and corporations have part-time and continuation schools received the attention which they deserve in view of the educational needs of the youth of the country, the civic needs of the great mass of the working population of the country, the efficiency needs of industry and commerce and the competitive aspect of the United States with other competitive countries.

This is a national drawback and educational shortcoming to rectify which will require the hearty cooperation of employer and employe as well as of the educators and of the public at large. A quotation from the September number of the "Vocational Summary" issued by the Federal Board for Vocational Education will exemplify the danger arising from the neglect of developing the mentality of the growing generation. In that number Dr. John Cummings calls attention to the large number of young people not in school, presented in the following table.

ESTIMATED NUMBER IN 1918 UPON THE BASIS OF THE 1910 CENSUS

Comparison of those gainfully employed with the number of those not in school and the difference in numbers.

Age and sex	Not in school	Gainfully employed	Difference between gainfully employed and not in school, or more in school than employed
Both sexes			
14 to 20 years........	8,740,000	7,130,000	Less in school 1,610,000
14 and 15 years......	990,000	1,210,000	More in school 220,000
16 to 20 years........	7,750,000	5,920,000	Less in school 1,830,000
Boys			
14 to 20 years........	4,890,000	4,640,000	Less in school 250,000
14 and 15 years.... ..	510,000	820,000	More in school 310,000
16 to 20 years........	3,880,000	3,820,000	Less in school 60,000
Girls			
14 to 20 years........	4,350,000	2,490,000	Less in school 1,860,000
14 and 15 years......	480,000	390,000	Less in school 90,000
16 to 20 years........	3,870,000	2,100,000	Less in school 1,770,000
Total	Not in school	Gainfully employed	Difference
Boys................	9,280,000	9,280,000	None
Girls................	8,700,000	4,980,000	Less in school 3,720,000
Total boys and girls..	17,980,000	14,260,000	Less in school 3,720,000

The relation of these figures to the political, ethical, moral, economic, intellectual, and industrial welfare of the Nation is obvious to every thoughtful person and should be a forcible stimulus toward compulsory vocational education of every boy and girl from 14 to 18 years of age. Recent world events have proven that, if the mass of the people do not know how to rule intelligently by means of trained reason, they will rule by brute force.

Thus far the development of the ethical, æsthetic, and economic side of life of the mass of industrial workers has been neglected by design or indifference, or left to chance, in all of previous vocational education productive capacity training was the main aim of the industries and training to fit into the political organization was the aim of the school.

In both cases quantity was extoled above quality.

Fortunately, it is more and more realized by educators, by industry, commerce and agriculture that the old style traditional educational processes are no longer adequate, however well they have served their purposes in the past.

APPENDIX 1

As stated previously your chairman took the liberty to ask the Federal Board for Vocational Education for a definition of part-time schools.

This definition was promptly and cheerfully rendered and your chairman begs leave to present some extracts from his letter of acknowledgment for the courtesy received.

"While appreciating highly the value of the Smith-Hughes law as a centralizing agency for minimizing the reaction of the inadequate educational system to meet the requirements for increased efficiency and to meet the exigencies of the industrial needs for domestic and international expansion, nevertheless the demand for immediate results and quantitative production seems to have received all attention. It is true, in the industrial annexes to high schools and in technical high schools tentative provision is made for intelligence training and training in citizenship.

"In the Smith-Hughes act likewise allusion is made to intelligence training, as for instance in (a) and (b) of Paragraph 7 of the definition of part-time schools where reference is made to civic and intelligence training. In all of our vocational and technical educational endeavors this prescribed formula for civic-intelligence training has been more ornamental than useful and so narrow that little permanent good has been effected as far as guidance in solving the problems of the student's daily life is concerned after leaving school.

"In my daily work and contact for nearly a generation with high school and college graduates I have found this insufficiency of education due to the absence of the one or the other of the three principal coordinates of efficient vocational education: lack of technical knowledge; arrested development of native intelligence; sub-normal ethical and civic consciousness.

"During my long life I have always found the honest and skilful product of industry the resultant of the three coordinate factors and guiding principles: mechanical skill; versatile intelligence; civic consciousness.

"In other words, the purely egotistic desires of the industrial worker must originate from and have as their basis some ethical conceptions of life and of moral and civic responsibility if our standard of civilization and of orderly government is to be maintained.

"And these occupational requirements and civic moral qualifications cannot be acquired and remain properly balanced without an advanced degree of general intelligence which means the power of introspect and a vision of life beyond the daily narrowing manual activity of the local industrial requirement.

"The foregoing considerations let me look upon the emphasis laid in the Smith-Hughes act upon elusive productive capacity training as its weak point and while I realize and approve of the work done under the pressure of the war, nevertheless, the trio of coordinate principles, productive of complete vocational education, should receive attention if the Smith-Hughes act is to be of maximum service to the country at large and not only to a few industries." Your chairman begs to express the opinion that the United States has no brief for the assurance that the absence of a properly balanced mechanic-ethical-civic-economic vocational education for the masses of our industrial workers will, in a generation or two, not have the same brutalizing effect, disregardful of higher international and human obligations as apparently has had the highly technical and universally vocational education of the German masses and industrial workers, which has been deplored and condemned during the war. As a matter of fact, years before the war broke out, in 1914, German engineers of high standing called attention to the absence and its sinister influence of ethical, culturalizing, idealizing forces in their scheme of vocational education upon the character of the German workers.

Who is willing to assert that in the long run this narrow, atrophying productive capacity and manual dexterity training will not produce similar effects upon our workers, human nature being the same at all times in all countries.

APPENDIX 2

Up to the close of this report the Federal Board for Vocational Education has issued many highly creditable and instructive bulletins, mainly for promoting the emergency training of soldiers and sailors and the rehabilitation of disabled soldiers and sailors, but, nevertheless, all of them of general educational value. The following are of special interest to the members.

Bulletin No. 1.—Statement of Policies.

Bulletin No. 17.—Trade and Industrial Education. Organization and Administration.

Bulletin No. 18.—Evening Industrial Schools.

Bulletin No. 19.—Part-time Trade and Industrial Education.

Bulletin No. 20.—Buildings and Equipment for Schools and Classes in Trade and Industrial Subjects.

Bulletin No. 22.—Retail Selling.

Annual Report of the Federal Board for Vocational Education, 1917.

The Federal Board also publishes a monthly magazine; "The Vocational Summary."

Application for any of the publications of the Board may be addressed:

"The Federal Board for Vocational Education," 161 E Street, N. W., Washington, D. C.

APPENDIX 3

In the past and at present many otherwise well-meaning and intelligent persons have indulged or are indulging in criticising and condemning the products and quality of output of our public and high schools without ever inquiring into the causes of the real or fancied shortcomings of the educational system. In the National Education Association Bulletin for December, 1918, Volume 7, Number 2, page 12, the following is found:

TEACHING A TRANSIENT CALLING

At the present time, more than one-half of the public school teachers of the United States are immature; they are short-lived in the work of teaching; their general education is inadequate; their professional equipment is deplorably meager.

Out of approximately 600,000 public teachers in the United States, it has been estimated by competent authorities that:

As to age—100,000 are seventeen, eighteen and nineteen years old; 150,000 are not more than twenty-one years old; 300,000 are not more than twenty-five years old.

As to length of service—150,000 serve in the schools only two years or less; 300,000 serve in the schools not more than four or five years.

As to education—30,000 have had no education beyond the eighth grade of the elementary schools; 100,000 have had less than two years' education beyond the eighth grade; 200,000 have had less than four years education beyond the eighth grade; 300,000 have had no more than four years education beyond the eighth grade.

As to professional preparation—300,000 have had no special professional preparation for the work of teaching.

One-half of all the school children are instructed by immature and untrained teachers.

In the aggregate, the boys and girls now having their schooling at the hands of immature and untrained teachers will constitute at least fifty per cent of the next generation of American voters.

Of the twenty million boys and girls in our public schools today, it may be conservatively estimated that 1,000,000 are being taught by teachers whose education has been limited to seven or eight years in the elementary schools; 7,000,000 are being taught by teachers who are merely boys and girls themselves; and whose appreciation of their responsibilities must in consequence of their youth and inexperience, be extremely slight; 10,000,000 are being taught by teachers who have had no special preparation for their work and whose general education is quite inadequate.

What are the critics who are so ready to condemn the output of our schools going to do to remedy such a condition? The schools, as public institutions, are subject to all the political, to all good or bad social influences prevailing in the community. These influences do not originate with the teachers but with the people. Hence, it is incumbent upon all who desire a higher product from our schools to study, analyze and remove the causes of their complaints, whatever their nature may be. If political, social, secret society influences, favoritism, nepotism, misapplied economy in management, reactionary tendencies prevail, then it is up to the citizens to remove these causes in order to promote progress.

APPENDIX 4

At the annual meeting of the Pennsylvania State Teachers' Association, last January, the imperative need of a more extended and inclusive high school education was emphasized by the chairman of the committee on high schools. Concerning the important subject of economics in modern education it was stated that only 460 boys out of every 100,000 in our high schools are studying economics. Ten changes were urged for adoption by the high schools. Dr. Thomas C. Blaisdell, Chairman of the Committee on High Schools and Dean of the Pennsylvania State College, kindly furnished the details of these ten desired changes for use in this report.

First, a course in economics;

Second, a course in civics;

Third, a course in home and famliy problems, including the duties of parents to children and of children to parents;

Fourth, a course in sociology;

Fifth, a course in personal, home and community hygiene and sanitation;

Sixth, with number five, daily required physical education;

Seventh, a required course in general science, the subject being so presented as to give the student a knowledge of common physics and chemistry for the home and the knowledge of foods which should lead to a balanced ration.

Eighth, a course in ethics based on some such volume as Johnson's "Problems of Boyhood."

Ninth, a course in vocational guidance having as its purpose the directing of the student into the life work in which he will find greatest joy and development;

Tenth, that every student should be required to do at least one hour of productive work a day outside of school hours, for which, however, he would receive school credit.

Respectfully submitted,

COMMITTEE ON CORPORATION CONTINUATION SCHOOLS,

R. L. Cooley (Deceased),
George W. Davis,
E. G. Allen,
Steward Scrimshaw,
H. V. R. Scheel,
Dr. D. Louis Ireton,
Paul Kreuzpointner, *Chairman.*

Mr. F. C. Henderschott (The New York Edison Company): In the seven years during which The National Association of Corporation Schools has been in existence, there has never been an official communication from organized labor in opposition to our efforts, and there has never been any friction with the public schools and there probably never will be any. Let us get that point clear. It was fought out in New York, although we were not a party to it, and a decision was reached —this decision, however, will probably not be a universal decision. It may not be generally accepted, but it is accepted in New York, which has not progressed nearly as far along vocational lines as some of the other states.

What is the function of the public school? What is the function of the corporation school? The answer in each case is this: It is the function of the public school system, which is supported by public taxation, to develop the inherent qualifications and qualities of the individual. One of the proprietors of a hotel in New York asked the High School Committee to go in and train his cooks, his bell boys and chambermaids, and the school committee refused, and rightly so, on the ground that he would immediately capitalize the training that was given with public money.

In the New York Edison Company, with which I am directly connected, we have seventeen courses in the commercial school, five in the technical school, and four in our accounting school, and only one of these courses embraces any of the points covered in the public schools, and that, I explained yesterday, is due to the fact that many individuals come into industry illy prepared for their life's work—that is not the fault of the public schools, not wholly the fault of the public schools, but they do not have the educational foundation which enables them to succeed in industry, and to that extent, and to that extent only, do we parallel or overlap or in any way touch the public school work; but it is the right of industries, if you please, to be operated efficiently, and how can industry operate efficiently if the individuals that compose the industry are not efficient? How can you have an orchestra without training the musicians? How can you have a handball team unless the members are trained? It is no different in industry than it is anywhere else.

On two occasions we have had a speaker attempt to come into the meetings of this Association and attack the public schools. On one of those occasions Mr. Williams, my superior officer in the Edison Company, was present. The man had scarcely sat down before Mr. Williams got up and denied everything the previous speaker had said, and made it clear that this Association stands for nothing in opposition to the public schools. They are the greatest democratic institutions on the earth, and we will strongly oppose any attempt to make it appear that this Association is in opposition to the public schools.

On the other occasion Dr. Steinmetz, our second president, was presiding, and the man had not taken his seat before our president was on his feet, and refuted everything he said. This Association will never oppose the public schools, but this Association holds that it is the duty of the public schools to train the inherent qualities of the individual, and make them as efficient in all respects, and present to them as large an opportunity as they can, and perhaps, to some extent, they can give them slight knowledge of some trade calling which will be of value to the boys in their life work. Samuel Gompers appointed me a member of his Committee on National Defense. I could not accept because I did not know just what position labor might take before the war was over; but there has been no opposition from our Association against organized labor. There is no reason for there ever being any opposition, and we are going to see to it that there is no opposition.

The next question is, "What has a corporation the right to do?" Everyone will agree that if a corporation pays for it, it has the right to see that anybody who is working for it is trained to become an efficient employe. Many people, however, question this right if the training is done on the individual's time. Some of you can remember very well when a man said, "If I am sober during the hours my company pays me, it is none of their business if I get drunk at night." Prohibition did not make any headway in this country until we refuted that statement. How about the engineer whose hand is on the throttle? Have we the right to say that hand shall be steady and the brain clear, and can the hand be steady and the brain clear if the man was drunk the night before? Prohibition in this country has come as an economic problem, and so will the future of this country be solved as an economic problem.

Our Association came into existence because the United States has to have better trained people, and I do not want any negative thought introduced into this meeting that organized labor is going to fight us, or that big corporations are going to control us. One speaker said that he was with the largest corporation in the world, and no one ever told him what to do or say. I have been connected with one of those large corporations, and not once have I ever had a suggestion, directly or indirectly, made to me, that I was to in any way influence the education of these people under my direct supervision. I doubt if there is a person in this room who has had such a suggestion made to them by their superior officers. It is unthinkable. What we want is cooperation. There is a certain part of this work we must do. There is a certain part of this work you must not use public money to do. Let us cooperate, and let us find what is the respective part of each, and let us make the government, the state, and the industry each do its own part. I beg your pardon for taking up all this time, but this is a delicate matter with me, and I wanted to make the statements which I have made. (Loud applause.)

CHAIRMAN SCRIMSHAW: I want to say that the speech which has just been made by Mr. Henderschott was tremendously worth while. I know that national associations and organizations are not in any negative position on that question, but there are other people in certain localities who start such propaganda as I have suggested. I am glad, however, that we can use the speech Mr. Henderschott just made to prove the truth. Mr. Henderschott and I do not at all disagree on this proposition, but we have had some experiences which make each of us get a different emphasis. I am thoroughly convinced of the good work this Association can do, and I have read its publications from year to year with profit. What we aimed at in this report was merely to see where the Federal Board could work in agreement with The National Association of Corporation Schools, and the points the Association had in mind where it could cooperate, so that these things could be brought out so that you could understand them. Is there anyone else who wishes to make any remarks?

MR. L. E. BARRINGER (General Electric Company): I thoroughly enjoyed Mr. Henderschott's speech, and he covered many points not clear to my mind, but the most important thing to do in these matters is to make a sharp line of differentiation in the work of the various activities. There is no opposition upon the part of the school authorities to vocational training systems —I speak both as a corporation employe and as a member of the Board of Education—but, on the other hand, there is a desire to work more closely with people who are engaged in this corporation instruction in the very friendliest spirit so as to produce the best results.

It is not clear in this report as to how cooperation can be brought about.

On page 539 of this report the following appears: "First, the school be under the supervision of the public school authorities; second, the time devoted to instruction be not less than 144 hours; third, the instruction confine itself to the limits prescribed by the type of school or class: (a) trade extension part-time school; (b) trade preparatory part-time school; (c) general continuation part-time school."

(a) The corporation must and can do and (b) and (c) are clearly things that instruction should accomplish, and they should be clearly indicated in this report. Where does the intermediate school have any place here? As to the attitude of labor, it has been stated that the laboring man wants as broad and cultural an education for his children as he can get, and he can get that to far better advantage in the intermediate schools than by the schools referred to in (b) and (c), that is, in these proposed continuation schools. In an intermediate school, with prevocational training, with civics, economics, history and other subjects included in the course is the suggestion we wish to offer. This report does not clearly state just what the public school system can and should do, nor what the corporation school can and should do.

Mrs. M. H. Crossette (International Harvester Company): I would state to Mr. Henderschott that had his hotel friend lived in Chicago he could have applied to the Board of Education and have his cook trained by the Board of Education; his cooks would have been taken to the Washburn School here on Union Street in Chicago, and his cooks or bakers or bus boys would have been educated.

Mr. Henderschott: I agree with that proposition—I did not make myself plain. You can have cooks educated in New York, if you send them to the schools, but this hotel proprietor did not ask that; he asked to have an instructor sent to the hotel.

MRS. CROSSETTE: Mr. E. G. Cooley, the head of our Continuation School, was in to see us this last week, and he told us that if any reasonable number of our employes desired to work with the Continuation Schools, they will bring in the instructors and place them in the industry.

MR. HENDERSCHOTT: They will do that in New York, too, but they will not do it for cooks. You must draw the distinction. This man desired the Board of Education to do some training under his direction that he could capitalize. We have continuation schools in New York—many of them—they have them in the department stores, all around, and they are conducted broadly from the standpoint of public education, developing the qualities of the individual, and not giving them an intensive training that can be capitalized by the man who runs the business. That is the distinction I intended to make, that is the distinction we must keep clearly in mind. Is it right that we use public money to train employes to be immediately capitalized by the industry? That would be wrong. We have no right to do it. We have no right to use the public money, to use it for the education of the employe and to capitalize that education. We have continuation schools all over, and preach a general curriculum in them. This, of course, includes salesmanship in the case of establishments where that training is required, but it includes only the basic principles of salesmanship, and they will not turn around and specify a course of salesmanship that applies to one business, and let the owner of that business capitalize that instruction, because they have no right to do that.

CHAIRMAN SCRIMSHAW: In our state we have an apprenticeship system whereby a boy is required to go to school for half a day each week. He is paid for being there by the employer. The public undertakes the responsibility of giving the boy the technical instruction required by the employer and the trade. You would not consider it to be beyond the jurisdiction of the state to train that boy.

MR. HENDERSCHOTT: It depends on the instruction given. If the instruction the boy is receiving is developing him as a man, of course, that is one of the responsibilities of the state, and then he becomes a useful citizen and an asset to the state; but, if it is to make him a particular artisan along a certain line of work that is to be capitalized by a certain institution, then, in my opinion, the state has no right to spend the public money for that purpose.

CHAIRMAN SCRIMSHAW: This apprentice did not go to school for a half a day to fool around with a machine; he should be fooling with something else.

MR. HENDERSCHOTT: There is another report coming that deals with the relations of the public schools with the industries. That is the report of the Committee on Public Education, of which committee Mr. Shaw is Chairman.

MR. SYDNEY W. ASHE (General Electric Company): I should like to inquire from the Chairman who represents the State of Wisconsin whether in the introduction of the continuation schools in their state any effort was made to secure the co-operation and full support of the manufacturers, and whether it was not necessary for them to adapt their courses with a special view to their utility in the various industries that were using them in order to stimulate interest.

CHAIRMAN SCRIMSHAW: Absolutely, yes.

MR. W. N. FENNINGER (Brooklyn Edison Company, Inc.): Nothing has been said here today about the National Society for Vocational Education, which is one of the societies of which I happen to be a member at the present time, and which was instrumental in getting the Federal Board for Vocational Education. There are many influential members in that Society—not representing all the members, however—who take a point of view which, it seems to me, is contradictory to what Mr. Henderschott has brought out about public financial support for the corporation school.

One reason I am bringing it up is that if it is in the minutes, I can tell some of my friends that many members of this organization do not agree with them. Take, for example, the apprenticeship system, which someone here said is dead, but which many others say has not died. Apparently it is not dead, judging by the energy of some of its champions. As near as I understand them, many men in the National Society for Vocational Education seem to think it is dead, and are going on the assumption it is dead, and are attempting to supplement it by establishing a vestibule school—let us say, for illustration—to teach a man one particular job in a short time, by intensive methods, and then to establish an upgrading school which takes him, after he has worked for a period at the job for which the vestibule school prepared him, and keep him in the upgrading school until he is ready for the next higher level, giving him a somewhat more advanced intensive training during this period. After working on this new level for a sufficient time, transfer him to another upgrading school, and have the man work in that school for another period, and then finally upgrade him to the position which he is to occupy. That is, have this course of training and upgrading from the bottom until the man is equipped for taking an executive position, without any paid apprenticeship school at all.

It is proposed by these same men that this training be supported by public money.

There are three questions I would like to ask: First, is such a training scheme feasible from the standpoint of the men who are on the apprenticeship committees? The second question is, is such a thing feasible from the standpoint of using public money with which to do that kind of thing? Third, if it is, would not the public come back and say, as Mr. Henderschott pointed out, we will be training a man for a particular job in a particular corporation?

I cannot see how those who have suggested this scheme can work it out, but if it can be worked out, I would like to have someone champion it here.

It seems to me, if I sense the opinion of this meeting, it is that the apprenticeship school is not dead, and the scheme I outlined of having this up-grading process has not been discussed, and I would like to see something of that kind go into the minutes, if there are any here who champion it.

Mr. H. S. Craigmile (The Goodyer Tire and Rubber Company): Take, for instance, the case of this hotel proprietor's cook—I am going to construct a hypothetical case—would not it be possible, ladies and gentlemen, to take these cooks, train them with public money and make them more efficient to the extent that they would climb up the ladder of success, make more money, and at the same time enable them to increase their contributions toward the support of the public educational system from which they derived the benefit?

I see no reason whatever why the public school system should not support that particular sort of vocational education, and not take the selfish view that the proprietor of the hotel was intending to capitalize the education of his cooks. True, the proprietor of the hotel might capitalize on the results obtained, but if the man is made more efficient, if he learns something he never knew before, and had no opportunity of learning, would it not mean more in his life; would it not enable him to obtain the higher things in life which he is striving for; would he not be more likely to be able to obtain these things that he is striving for, by a system of vocational education which would make it possible for him to climb the ladder of success and perhaps some day be a chef? A chef, of course, would be remunerated more largely than a cook, would probably be a larger holder of property, and he, therefore, would be assessed more for the purposes of education than the cook.

CHAIRMAN SCRIMSHAW: Our time is up, and I just want to close by a statement that partially answers what the gentleman asks. In the first place, I think that we must not appraise these methods to come from any one angle, or think that any one thing can be a panacea for all conditions.

As far as answering the question with regard to the apprenticeship proposition as against the program furnished by the National Society for Promotion of Industrial Education, of which I am myself a member, I would say that we can broaden our conception of the apprenticeship system. Apprenticeship can mean the grouping together of a series of experiences. Broaden your apprenticeship, and put more into it. As far as the other part of the question is concerned, it has been answered. If that is satisfactory, that will conclude our report.

The meeting then adjourned.

COMMITTEE ON PUBLIC EDUCATION

MR. C. E. SHAW, *Chairman*
DENNISON MANUFACTURING COMPANY
Framingham, Mass.

MISS E. A. BUSCH
HOTEL BERKLEY
170 West 74th Street, New York City.

MR. ROBERT B. BONNEY
THE MOUNTAIN STATES TELEPHONE & TELEGRAPH COMPANY
Denver, Colorado.

MR. C. B. ROBERTSON
UNIVERSITY OF PITTSBURGH
Pittsburgh, Pa.

THURSDAY—AFTERNOON SESSION

PUBLIC EDUCATION

THURSDAY AFTERNOON—JUNE 5, 1919

PRESIDENT ROWE, *Presiding*

PRESIDENT ROWE: The meeting will kindly come to order. We have an excellent extension of the program of this morning—the matter of "Training the Worker—The Schools' Viewpoint." It comes in the shape of a report of the Committee on Public Education, of which Committee Mr. C. E. Shaw is Chairman, and he will preside at this session. I take pleasure in introducing Mr. Shaw.

MR. C. E. SHAW (Dennison Manufacturing Company): The subject which this Committee has to consider was such a big, comprehensive one that it phased the Chairman and, I imagine, the members of the Committee also. We decided, therefore, to get the best information and help on our problem that we possibly could. We went direct to headquarters in Washington, the Commissioner of Education. He very kindly offered to work with us, and directed our attacking the problem assigned to us. He invited representatives of the American Federation of Labor and the United States Chamber of Commerce to sit in the discussion of the questions assigned to this particular committee of The National Association of Corporation Schools.

The representatives of these three bodies, the Department of Education, the American Federation of Labor, and the United States Chamber of Commerce, met with Dr. Claxton, a little over a year ago, and came to a common basis of agreement as to what the problem was. On page 568 you will notice the heading, "Statement of the Problems."

The first four paragraphs of this statement are merely the foundation and statement of beliefs and set of axioms of our whole work. From that point on, the question takes this form, as set forth under "Method of Procedure."

Granted what we have said here is true, that special training for particular jobs is a distinct burden upon commerce and industry, that the public school should be held responsible only for an efficient and all-around general education in fundamentals, and such cultural subjects as seem advisable, how far, then, are the public schools of the United States meeting those conditions and how efficiently are they meeting the conditions when they have adopted them? In order to arrive at some information along these lines, there was sent out from the Bureau of Education at Washington a questionaire, asking, among other questions of general information, five specific questions. These papers were sent, as you know, to members of this Association, to local chambers of commerce, or local boards of trade, and to local central labor unions. Only a small number or percentage of those receiving the questionaire made reply, but, as you can see on page 573 the answers sent in are very representative, so that there has been a more or less complete sampling of each part of the country, both in the local chamber of commerce and in the labor unions, as well as in the corporations.

An analysis of replies to question No. 1 ("In what way has the need for closer relation between the public schools and the future life work of the pupil shown itself?") shows that a great majority of the answers to this question say that there is a need for special or vocational training.

When this has been recognized among those who employ or take over the product of the schools, the next obvious question is, "What has been done to meet this need?" Among the replies to this question sent in, a total of 297, 168 show the need of cooperation. Less than 50 per cent of those seeing the need have done anything to get the cooperation. Then we asked another question, "How is this advisory committee constituted?" That is, how the cooperation was secured. The replies to that question are tabulated, and I will not go through them.

The one point I want to make is that of 78 chambers of commerce, labor unions or corporations seeing the need of cooperation between the industry and the public schools, 53 of them have obtained positive results. Some typical instances of positive results are given on pages 576 and 577 of this report.

The conclusions which the present Committee on Public Education have drawn from this rather preliminary survey of the whole situation are tabulated on page 578. Our great question was to determine how fully the public school system in the United States is meeting the educational and training requirements of modern business, and to study ways and means for a closer coordination where such things can be applied without interference with the broader purposes of public education. In part, the conclusion says: "It is evident from the preceding pages that both business and labor organizations recognize the relationship between school and life work is not ideal. Most of the criticism hinges on the fact that the public schools prepare for no specific purpose in life other than general knowledge.

"The general solution offered to the problem is that of vocational work in the schools. It is satisfying to note that where either labor organizations or business organizations have appointed advisory committees to work with the public school authorities in many instances good results have been obtained."

I think it is safe to say that as far as professional or engineering subjects are concerned that our schools, both public and private, are worked out on efficient lines, comparatively speaking. Where the interests of commercial organizations are affected, there seems to be pretty well grounded commercial courses, not only in the intermediate days, but also in the high schools leading into commerce. Beyond that, of course, there are schools of business administration, preparing the students for the higher positions of responsibility.

Not until within recent years has there been any organized attempt in the public schools to prepare adequately for the third phase of our lives, the industrial life, and only within the past few years has there grown up in various communities sundry forms of pre-vocational and vocational schools. As a result of this, those of us who are connected with manufacturing organizations have sensed, probably much more quickly and much more severely, the great need for more adequate preparation in fundamentals for the boys and girls who do not go into high school, or who, after leaving high school, do not go into business or do not enter college and scientific schools. Unfortunately, most of us in sensing this need have given the public schools a great amount of destructive criticism. For that reason the one lesson that I think we can draw from our discussion thus far is contained in the next paragraph of the conclusions:

"While the problem is a general one, it would appear that its proper solution rests largely upon the initiative and cooperativeness of local organizations. Members of The National Association of Corporation Schools should bear this in mind, and, instead of expecting a universal panacea for their troubles, do their individual part by cooperating with their local chambers of commerce, labor organizations and school authorities in bringing about public school education better planned for the future life and employment of its pupils."

Necessarily, this report of ours cannot be other than a report of progress. We have really made a very thin survey of the field. It is our intention to pick out from the questionaires those which seem to offer the most satisfactory solution of the problem of the relation between public schools and industry. The Commissioner will then have surveys made and further study made of these particularly good instances. The information thereby gained will be made public and turned over, not only to the members of this Association, but to the other two Associations, to help them, through their local representatives and their local organizations, to work out ideas along similar lines.

Now, for the purpose of the discussion this afternoon, I invite your earnest discussion of any part of this report, particularly the statement of the problems. I also invite an expression here of any ways in which any one of you may have been successful in getting the public school officials in your community to work with you. I also invite any form of constructive criticism of the educational product of the public schools. I do not think it is our function or our right to offer criticism of so great an Americanization project as the public schools without being able to offer something constructive as a substitute.

REPORT OF COMMITTEE ON PUBLIC EDUCATION

RELATION OF THE PUBLIC SCHOOL TO COMMERCE, INDUSTRY, AND LABOR

On January 28, 1918, Mr. C. E. Shaw, chairman of the Committee on Public Education, The National Association of Corporation Schools, presented to the Commissioner of Education a formal request for assistance in a study of "ways by which the member companies of the National Association can best cooperate with elementary and secondary schools." To this request Commissioner Claxton responded by promising the services of the Bureau of Education, so far as its resources permit, and suggesting the organization of a committee to advise with the Commissioner of Education, to consist of a representative of The National Association of Corporation Schools, a representative of the United States Chamber of Commerce and a representative of the American Federation of Labor.

On March 9, 1918, Mr. F. C. Henderschott, Executive Secretary of the Association, announced that the Executive Committee of The National Association of Corporation Schools had considered and endorsed the proposal, with the request that such an advisory committee be formed, and that it "attempt to work out some plan of study and procedure which will not call for much financial support, at least in the early period." Mr. Henderschott further announced that the Executive Committee had designated Mr. Shaw as the representative of the Association to serve on the proposed advisory committee.

Invitations were accordingly sent to the United States Chamber of Commerce and to the American Federation of Labor, to designate representatives to serve on this committee. On May 15th, Mr. Elliot H. Goodwin, general secretary, announced that the Board of Directors of the United States Chamber of Commerce had designated Mr. Joseph H. Defrees, vice-president, for this purpose. On May 18th, President Samuel Gompers announced that Mr. Arthur E. Holder had been designated to represent the American Federation of Labor on the proposed advisory committee.

On June 8th the committee met in the office of the Commissioner of Education.

Personnel

Those present at the conference included:

P. P. Claxton, Commissioner of Education.
C. E. Shaw, The National Association of Corporation Schools.
J. H. Defrees, United States Chamber of Commerce.
A. E. Holder, American Federation of Labor.
J. W. Dietz, The National Association of Corporation Schools.
G. L. Swiggett, Bureau of Education.
W. T. Bawden, Bureau of Education.

Statement of the Problems

The members of the conference reached tentative agreement on the following points:

(1) There exists a gap or break between the point at which the general education of most boys and girls ends in the public school and the point at which they may advantageously gain a foothold in commercial, industrial, or professional life.

(2) It is not regarded as the legitimate function of schools supported by public taxation to give the specific training required by particular jobs in commercial or industrial plants. The burden of giving such specific instruction, except as may be provided for by vocational schools, is a proper charge on commerce and industry.

(3) It is reaffirmed that an efficient and comprehensive general education, such as should be possessed by all citizens in a free democracy, is a necessary provision that should be made a public expense.

(4) It is believed that to this general education should be added provision for assisting boys and girls to determine the directions in which they may make the best use of their native talents and opportunities, and to prepare for useful service in the world. This provision should be made at public expense and should be made available to all boys and girls.

(5) It was decided that a study should be made of the subject and as to what cooperation with respect thereto might advantageously be given by commerce, industry, and labor.

Method of Procedure

It is believed that in a number of cities in this country progress has been made in securing cooperative effort looking toward the solution of this problem. The conference therefore requested the Commissioner of Education to make a preliminary inquiry to determine the most advantageous point or points at which to make a study of the methods which have proved successful in accomplishing the desired results.

It was suggested that a preliminary letter of inquiry be sent to the executive officers of the following organizations:

(1) Schools of the member companies of The National Association of Corporation Schools.

(2) Local Chambers of Commerce.

(3) City Central Labor Unions.

The purpose of this preliminary inquiry should be to ascertain:

(1) Which of the organizations addressed have taken official notice of a local need for closer relation between the public schools and the future life work of the pupils.

(2) Which of these organizations have appointed, or have cooperated in the appointment of, advisory committees to act with the public schools authorities.

(3) Which of these organizations have been able to accomplish definite results by means of such cooperative effort.

Cooperation

The members of the conference agreed to cooperate with the Bureau of Education in making this preliminary inquiry, and in studying the replies which may be received.

Adjournment

The conference adjourned, to meet at the call of the Commissioner of Education.

As a result of this conference, the following letter was received by the Commissioner of Education:

"October 3, 1918.

Dr. P. P. Claxton,
Commissioner of Education,
Department of the Interior.

Dear Sir:

The attention of the undersigned has been called to the report of a conference held in your office on June 8th, to consider ways and means for promoting more efficient cooperation between the public schools and those agencies which are relied upon by employers for supplementary preparation of youth for wage-earning efficiency.

As we understand it, the function of the public school is education for citizenship in the fullest sense, which includes intelligent, efficient, purposeful, and worthy living. The primary function of the training provided by the employer is to help make the individual a more efficient and contented worker. These two functions are supplementary to each other, and call for close practical cooperation if the desired results are to be secured. In the last analysis, both must conserve alike the interests of the worker, the employer, and the state.

Too often the public school authorities and those who direct the training given in commerce and industry work in ignorance of each other's aims and ideals, and sometimes even at cross purposes.

We are in hearty accord with any movement which has for its object the securing and promoting of cooperation between educators and responsible groups of citizens in the study of education for intelligent citizenship, to promote a closer relation between the public school and the future life work of its pupils.

For this reason we endorse the conclusion reached at the conference referred to, to make a study of the matter.

We take pleasure, therefore, in pledging such assistance as our accredited representatives may be able to render in such study, and join with these representatives in requesting you to proceed along the lines requested.

Very truly yours,
H. M. Rowe,
President, The National Association of Corporation Schools.
Harry A. Wheeler,
President, Chamber of Commerce, of the United States.
Samuel Gompers,
President, American Federation of Labor."

Upon receipt of this letter, the following letter was sent from the Bureau of Education:

"DEPARTMENT OF THE INTERIOR,

Bureau of Education.

Washington, October 18, 1918.

To the Secretaries of
Corporation Schools
Chambers of Commerce
City Central Labor Unions

Gentlemen:

I desire to call your attention, and through you the attention of your associates, to the contents of the enclosed correspondence, report, and inquiry blank, referring to the subject of education and the relation of the public school to commerce, industry, and labor.

Please have this matter referred to your local Committee on Education, or to the committee to which your organization usually refers questions of similar nature. Kindly reply at your earliest convenience with all information available. If your committee desires additional information before replying, I shall be glad to try to furnish it.

This inquiry is addressed to the executive officers of the following organizations:

(1) Schools of the member companies of The National Association of Corporation Schools.

(2) Local Chambers of Commerce.

(3) City Central Labor Unions.

May I suggest that your organization, through its proper representatives, confer with others in the groups addressed in each locality, so that a common understanding may be reached if possible in your community.

The members of the committee appointed to advise with the Commissioner of Education feel the need of knowing more in a general way of the present status of this movement before proceeding with a detailed investigation. This preliminary inquiry is made in the expectation that the information secured will be used as the basis for a more comprehensive study later.

The officers addressed are requested to fill in the blanks on the accompanying form, and to return the same promptly to the

Bureau of Education. The enclosed official envelope may be used for this purpose without payment of postage.

Very truly yours,
P. P. CLAXTON,
Commissioner."

The inquiry blank referred to in the above letter contained the following questions:

"1. Has your organization taken official notice of a local need for closer relation between the public school and the future life work of the pupils?

2. In what ways has this need shown itself?

3. Has your organization appointed an advisory committee to act with the public school authorities?

4. How is this advisory committee constituted?

5. What definite results have come from this cooperative effort?"

The Questionaire was sent to the officers of the following organizations:

130	Corporation Schools
1200	Chambers of Commerce
800	City Central Labor Unions.

Replies were received from:

49	Corporation Schools
204	Chambers of Commerce
44	Labor Unions.

The following table shows the geographical distribution of the replies sent in and also the answers to the first question:

Question No. 1. Has your organization taken official notice of a local need for closer relation between the public school and the future life work of the pupils?

STATE	Chambers of Commerce			Labor Unions			Corporations			Totals		
	Yes	No	Pending	Yes	No	Pending	Yes	No	Pending	Yes	No	Pending
Alaska	0	3	0	0	0	0	0	0	0	0	3	0
Arizona	1	1	1	1	1	0	0	0	0	2	2	1
Arkansas	2	1	0	0	0	0	0	0	0	2	1	0
California	3	2	1	0	0	0	1	1	0	4	3	1
Colorado	1	3	0	0	0	0	0	1	0	1	4	0
Connecticut	3	3	0	0	1	0	1	0	0	4	4	0
District of Columbia	1	1	1	0	0	0	0	0	0	1	1	1
Delaware	1	0	0	1	0	0	0	0	0	2	0	0
Florida	1	0	0	1	0	0	0	0	0	2	0	0
Georgia	1	2	1	0	0	0	0	0	0	1	2	1
Idaho	2	0	0	0	1	0	0	0	0	2	1	0
Illinois	10	15	5	2	2	1	5	2	0	17	19	6
Indiana	5	5	3	2	0	0	0	0	0	7	5	3
Iowa	3	0	1	1	1	0	0	0	0	4	1	1
Kansas	2	0	2	0	2	0	0	0	0	2	2	2
Kentucky	1	2	0	0	0	0	0	0	0	1	2	0
Louisiana	1	1	0	0	0	0	0	0	0	1	1	0
Maine	0	2	0	0	1	0	1	0	0	1	3	0
Maryland	0	1	0	0	0	0	1	1	0	1	2	0
Massachusetts	4	6	1	0	2	0	1	1	0	5	9	1
Michigan	1	8	0	1	1	0	3	0	0	5	9	0
Minnesota	2	1	0	1	1	0	1	0	0	4	3	0
Missouri	1	2	0	0	2	0	0	0	0	1	4	0
Montana	0	2	0	1	1	0	0	0	0	1	3	0
Nebraska	2	0	0	0	0	0	0	0	0	2	0	0
Nevada	0	0	0	0	1	0	0	1	0	0	2	0
New Hampshire	1	0	1	0	0	0	0	0	0	1	0	1
New Jersey	6	0	0	0	0	0	1	2	0	7	2	0
New Mexico	0	0	0	0	1	0	0	0	0	0	1	0
New York	9	9	1	3	2	0	8	4	1	20	15	2
North Carolina	0	1	0	0	0	0	0	0	0	0	1	0
North Dakota	1	2	0	0	0	0	0	0	0	1	2	0
Ohio	5	3	0	1	2	0	4	0	0	10	5	0
Oklahoma	1	1	0	0	0	0	0	0	0	1	1	0
Pennsylvania	7	3	2	0	2	0	6	1	0	13	6	2
Philippines	1	0	0	0	0	0	0	0	0	1	0	0
South Carolina	1	0	0	0	0	0	0	0	0	1	0	0
South Dakota	0	1	0	0	0	0	0	0	0	0	1	0
Texas	4	2	1	1	0	1	0	0	0	5	2	2
Utah	0	0	0	1	0	0	0	0	0	1	0	0
Vermont	1	0	1	0	0	0	0	0	0	1	0	1
Virginia	0	2	0	0	0	0	0	1	0	0	3	0
Washington	0	1	0	0	0	0	0	0	0	0	1	0
West Virginia	2	0	1	0	0	0	0	0	0	2	0	1
Wisconsin	4	3	0	0	0	0	0	0	0	4	3	0
Wyoming	0	0	0	1	0	0	0	0	0	1	0	0
Totals	91	90	23	18	24	2	33	15	1	142	129	26

A further analysis of ways in which the need for closer relationship shows itself is given in the following table (Question No. 2):

In what ways has this need shown itself?

	Chambers of Commerce	Labor Unions	Business Firms and Corporations	Total
Need for special or vocational training	55	10	21	86
Americanization classes necessary	18	1	5	24
Graduates' lack in fundamentals	7	..	6	13
Graduates' lack in motive purpose	7	6	4	17

The relationship of the appointment of advisory committees to the number of replies sent in and also to the number of replies seeing a need for closer relation between public schools and future life work of the pupils is as follows (Question No. 3):

	Chambers of Commerce	Labor Unions	Business Firms and Corporations	Total
Number of replies	204	44	49	297
Number seeing need of cooperation	114	20	34	168
Number of those seeing need, having Committee Advisory	51	11	16	78

The make-up of the Advisory Committee is summarized in the following table (Question No. 4):

GENERAL SUMMARY OF ADVISORY COMMITTEES

Labor Unions

Number of Committees	How Advisory Committee Is Constituted	Average Size
10	1-5 delegates appointed by chairman	5
1	5—consisting of 2 workers, 2 employers and 1 public representative.	5
	Corporation Schools	
6	Directors confer with School Board.	..
2	Employment Manager confers with School Board.	..
2	Factory training heads confer with School Board.	3
2	Representatives of each Factory Department.	5
2	Various manufacturers in District	5
2	Educational Committee of Employees.	..
	Chambers of Commerce	
26	Educational Committee appointed by President or Board of Directors.	5
5	Board of Directors.	5
5	Superintendent of Schools with representatives of Labor and Industry.	3
3	Teachers and representative business men.	5
3	Member of School Board and one from each industry.	3
5	Member of each industry.	3
3	Officials of Chamber are on School Board.	..

The general results obtained by Advisory Committees are shown in the following table (Question No. 5):

Organization	Number of Committees reported	Results Positive	Negative	Doubtful
Chambers of Commerce	50	36	5	9
Labor Unions	11	4	5	2
Business Firms, etc...	16	13	..	3
Totals..........	77	53	10	14

A few of the answers given to the question "What definite results have come from this cooperative effect?" are worth quoting to show the general trend of affairs.

Results of Cooperative Effect

State	*Organization*	
Arkansas	C. C.	Vocational training with competent instructors in mechanics, book-keeping, stenography, domestic science and agriculture.
Colorado	C. C.	Schools have agreed to start foreign trade course.
California	C. C.	Americanization classes and vocational training.
Florida	C. C.	Increase in rate of taxation for school purposes. Special committee arranging vocational educational courses.
Illinois	C. S.	Improvement of apprentices mechanically and intelligently. Improvement of foreign born labor by teaching of English.
	C. S.	One school department open during vacation season for industrial work.
	C. S.	(1) Better understanding with school authorities. (2) Avoidance of duplication of effort. (3) More employes have profited by existing opportunities.
New York	C. C.	Night schools established for non-English speaking.
	C. C.	Program for technical training.
	C. C.	Surveys of needs of industrial workers.
	C. S.	Salesmanship courses installed in High School.
	C. S.	Greater efficiency of the employed.

State	*Organization*	
Ohio	C. C.	Manual training schools of excellent type, devoting necessary time of pupils along lines to which they seem most naturally adapted. Many young men have entered plants following the training at better wages than older men untrained.
	C. C.	A comprehensive plan of activity increasing domestic arts and manual training, introducing it into the lower grades; establishment of extensional school activities; introducing practical educational work which will be supplemental to daily employment.
Pennsylvania	C. C.	Night schools established. Development of manual arts course.
	C. C.	Public schools are cooperating in a plan of half time at work and half in the High School.
Iowa	C. C.	Two specific school surveys.
	L. U.	Free text books, night schools, short course trade schools during dull seasons.
	C. C.	Night schools established.
Massachusetts	C. C.	(1) Part time vocational training. (2) Americanization classes.
	C. C.	Technical High, vocational school, school of salesmanship, instituted on recommendation of Committee on Education.
Michigan	C. C.	Beginnings of a vestibule school.
Missouri	C. C.	Night school for aliens.
New Jersey	C. C.	Closer relation between business men and schools.
	C. C.	Exceptional facilities for training youth in industrial arts.
Wisconsin	C. C.	Infinitely better results from workmen without loss of time and expense to either worker or industry.

Conclusions

The duties assigned to the Committee on Public Education are, "To determine how fully the public school system of the United States is meeting the educational and training requirements of modern business and industry, and to study ways and means for a closer coordination where such can be applied without interference with the broader purposes of public education."

It is evident from the preceding pages that both business and labor organizations recognize that the relationship between school and life work is not ideal. Most of the criticism hinges on the fact that the public schools prepare for no specific purpose in life other than general knowledge.

The general solution offered to the problem is that of vocational work in the schools. It is satisfying to note that where either labor organizations or business organizations have appointed advisory committees to work with public school authorities, in many instances good results have been obtained.

While the problem is a general one, it would appear that its proper solution rests largely upon the initiative and cooperativeness of local organizations. Members of The National Association of Corporation Schools should bear this in mind, and instead of expecting a universal panacea for their troubles, do their individual part by cooperating with their local chambers of commerce, labor organizations and school authorities in bringing about public school education better planned for the future life and employment of its pupils.

This report cannot be other than a report of progress. As stated in the earlier part of the report, the United States Chamber of Commerce, The National Association of Corporation Schools, and the American Federation of Labor have agreed to cooperate with the Bureau of Education in the study of the problem. It is recommended, therefore, that this Association through its Committee on Public Education continue to work with the Bureau of Education under the direction of the Commissioner of Education. During the coming year studies of the details of successful plans of cooperation should be made and put at the service of this Association.

President Rowe: This subject now to be considered is the report of the Committee on Public Education. The Chairman has outlined very distinctly the four fundamental platforms representing the conclusions that they have reached, and I should be very glad to have these four points thoroughly discussed.

Mr. Robert B. Bonney (The Mountain States Telephone and Telegraph Company): I want to emphasize the necessity of cooperation between the industries and the public schools in working out plans for improving the product that is turned out by the public schools for use in industry. I think the Committee has done a great work in getting together the organizations which have worked on this report, but I also think that the best work and the most effort is to be put forth by the local organizations in their localities to get together with the public schools. I think more can be done locally than by a general conference, although, of course, general conferences are of great value in laying down general courses of procedure.

Some time ago I had the feeling, from discussions I had heard, that perhaps the public schools were tumbling down somewhat in their work, and that they had not kept pace with the development of industry. But the more discussion I hear, and the more I read, I feel that this is a wrong impression. The public schools are keeping pace, and we know, while perhaps they do not turn out people trained sufficiently to step right into industry and produce from the start, that industry itself is working out problems which are not yet satisfactory. With the proper cooperation between industry and the public schools, the problem will be worked out so that the gap between the training that the public schools give and what industry needs will be taken care of as you go along.

I think some of the ideas as to the lack of knowledge which the students have, which have been brought out in the discussion of certain examinations, may be attributed not entirely to a lack of knowledge, but partly to a lack of training in observation and careful reading. It has been my experience that the human being, in general, is apt to read carelessly and not get all the meat that there is in the subject. I think, in connection with these examinations, that some of the answers given were not so much due to a lack of knowledge as to the fact that in reading the examinations the student failed to grasp exactly what was required; for example, in speaking of the Suez Canal being in the State of New York, it might be that that student had a broader view of what he was thinking about than to confine his thought to the State of New York, and was thinking of the world at large, and failed to realize that the question was confined to that state. That is, of course, due to a lack of training in certain directions, but perhaps not to a lack of knowledge so much as to a lack of training in careful reading.

The subject of vocational training in public schools is one which, I think, should be carefully thought of, and care should be taken that the schools do not go too far in specializing. Any vocational work which the public schools can give will be of general value in training the students, so that they may be better prepared to enter industry in general, but I question the advisability of the public schools going into the specialized phase to such an extent as to narrow the student's knowledge to any particular trade.

MR. J. J. GARVEY (Western Electric Company, Inc.): I feel that maybe I am a little peculiarly situated, in having been a school teacher a good many years ago, and now being connected with educational work in the industries. I have heard several terms used relating to vocational training in schools which leads me to believe that you men do not really refer to vocational training—I think you mean something else.

With regard to Question No. 1, I do not believe there is any gap existing between the schools and the industry. There is only a step from the school to the industry, and that is to get a job, go to work and be sure to go to work in the right kind of industry. The industries expect the student to come from the schools without experience, and not with it. It is the business of the corporation to give definite training in the industry, and not to expect this training to be given by the schools.

A short time ago I was asked to attend an educational committee of one of the Chicago clubs. The gentlemen on the committee were mostly school men and were after me because I was connected with educational work in the industry, and they wanted to know in what subjects we trained the students, the way we trained and what became of the students after we trained them. We had a frank, heart-to-heart discussion and I made the statement at that time that if a boy or a girl would come to us well grounded in the fundamentals, that it was our business to do the rest, and that is the way I have always felt in regard to the relation of public school work to the industries.

I have heard a good deal about the schools having too many frills. Dr. Rowe is one of the men who made the statement that the schools are putting in too many frills. It depends on what those so-called frills are for. I was connected with one of the frills in the school line for eighteen years. I am speaking of the vocational work in public schools. I do not look upon the work in technical high schools and the technical work in the public schools as frills. Nor do I look on drawing or kindred subjects as frills. Any subject taught in the public schools that will assist a boy or girl to find his place in the business world must not be classed as a frill, but as an essential. It should not be called a vocational subject, but a pre-vocational subject, because it gives them a chance to discover themselves, helps them to select a life-occupation, so that when they start out to seek a job, they have something definite in their minds to work for.

MR. W. W. KINCAID (The Spirella Company, Inc.): I believe you asked for statements of work being done along these lines. At Niagara Falls we have a well organized evening school. We have a great many foreigners in Niagara Falls, and this evening school is making definite efforts toward teaching Americanization. This school is organized under the direction of the Superintendent of Education, and the Board has provided the superintendent with an assistant, who has direct charge of this work. The work is being extended into the plants; any plant that desires to do so, can organize a school in the plant, or such classes as they may decide upon, and teach such subjects as they may select, and principally among these are classes and talks on Americanization.

We are fortunate to have in our local Chamber of Commerce as secretary to the Chamber, a man who is an educator and a student, a man who has occupied the chair in Economics in a college. He has taken a decided interest, and our Chamber of Commerce has taken a decided interest, in educational subjects.

A joint committee of the School Board and of the Chamber of Commerce is working upon this problem of a vocational school, and a programme, I believe, has been decided upon to build two junior high schools, schools that begin in the seventh grade, to teach some vocational subjects, and cover the work of the seventh and eighth grades. This programme also has in contemplation the building of a technical high school. This is, we think, quite an advancement for a town of 70,000 to make in a little over a year.

I know something of the work of this Committee. In fact, I met Dr. Claxton and Mr. Defrees personally, and talked to them in regard to this work that our Chamber of Commerce had in contemplation. Niagara Falls, of course, is a place where we have a great many highly developed industries along the chemical and electro-chemical line. It affords a very fine opportunity for this class of work.

MR. R. F. CAREY (Westinghouse Electric and Manufacturing Company): At one of our early conventions, I believe it was Worcester, Mr. Rohrer, of the General Electric Company, in connection with the report of the Committee on Public Education, asked the members present to indicate by rising, as to how many were actively engaged in cooperation with, or in consultation with, their local school boards, this to be a mark or an indication of the active cooperation between the members of this Association, as individuals, and the local school board. Mr. Chairman, would it be out of order to make a similar request this afternoon, to see whether any progress has been made in that direction? If I remember aright, at the Worcester meeting, there were only five who indicated by rising that they were in active cooperation with the local school boards.

PRESIDENT ROWE: That is entirely in order.

MR. KINCAID: What is the question?

MR. CAREY: How many of the delegates present are members of the local school boards or in consultation with them on educational work?

PRESIDENT ROWE: I think you wanted to know how many were in communication with their local school boards.

MR. CAREY: Not in communication only, but also in consultation with them, either as a member of the Home League, as an official of the Home League, or some similar organization, by whatever name it may be known.

CHAIRMAN SHAW: Do you mean active in an official capacity, as representative of your particular department, acting in cooperation with the school board or the school authorities?

MR. CAREY: Yes. Or as a member of the local school board——

PRESIDENT ROWE: The members who are doing this kind of work will please rise.

(Fifteen members arose.)

MR. CAREY: Evidently, we are making progress.

PRESIDENT ROWE: Of course, it was understood that these responses represented actual efforts that have resulted in the establishmnet of cooperative relations and exchange of views, between representatives of schools in industries, and the public schools? That was your idea, Mr. Carey?

MR. CAREY: Yes.

MR. KINCAID: There is just one other thing I intended to say, during my previous remarks, which I think this Association is interested in. As I have said, we have at Niagara Falls an evening class, in which, among other things, we teach Americanization, and our teaching in connection with Americanization is based on the reports of this Association, a full set of which have been placed with our public schools and our superintendents. I thought that might be helpful information.

PRESIDENT ROWE: The Chair notices a number of persons in attendance, ladies particularly, whom we might assume are teachers in the public schools of Chicago. How many such are present?

(There was no response.)

There does not seem to be any teacher in the public schools in Chicago present. Therefore, the question which I had intended to propound would be useless, and we will proceed with the discussion. The discussion is really under the direction of your Chairman, Mr. Shaw, but we want to help him along, and that is the reason we make these injections into the procedure.

MR. L. E. BARRINGER (General Electric Company): In looking over this report I notice on page 568 that a certain group of men concluded that "It is not regarded as the legitimate function of schools supported by public taxation to give the specific training required by particular jobs in commercial or industrial plants. The burden of giving such specific instruction, except as may be provided for by vocational schools, is a proper charge on commerce and industry." Another group, as shown on page 578, concluded: "It is evident from the preceding pages that both business and labor organizations recognize that the relationship between school and life work is not ideal. Most of the criticism hinges on the fact that the public schools prepare for no specific purpose in life other than general knowledge.". It struck me that these conclusions are diametrically opposed. Therein lies the chief difficulty confronting educators, namely, to arrive at the proper objective, and if we cannot make that possible, we will always disagree. At the annual convocation of the University of the State of New York, I heard three men discuss the purposes of education. These men were educators, and these educators themselves actually disagreed. Their objective was not the same, and each had a particularly subjective interest in education, and if each man in turn was in charge of an educational policy, that policy would be different. School boards all over the country are swaying from one extreme to the other, some towards vocational training and some towards cultural training, and that is our greatest difficulty.

I think an association of this kind could assist in arriving at the proper objective for common school education. In Schenectady we make it as broad as possible, and hold that nothing which contributes to the physical, moral or mental welfare of children is foreign to the purpose of education.

In these discussions it has been clearly brought out that there has been a tendency for youngsters to leave school early, as early as they legally can. If it is a fact that such is the tendency, then is it not the proper course to keep the education as broad as possible up to that point, rather than, as is frequently the case, make the education up to that point quite narrow? I found in Schenectady, when I was appointed to the School Board, that the Board was trying to give manual training down to the fifth grade. We promptly put it back to the seventh and eighth grades. But there is this tendency to narrow the common school education, when, as a matter of fact, it should be made broad and kept broad.

I believe, therefore, that if we start with the proper objective, we are a long ways on the road towards arriving somewhere. It does not make much difference whether the cooperation with school boards come from labor organizations or the corporations, or from some other source. Any school board will welcome that cooperation, and in my studies of the subject, I find such cooperation is sadly lacking upon the part of the public as a whole.

Take the single item of teachers' salaries, and there you touch a vital subject in common school education. Everybody in the community should be back of that proposition today. What can you expect, in the way of definite results, from the work of the teachers when you consider the salaries that are paid to the teachers today? A self-respecting teacher would not think of going into the places where the salaries are $300 or $400 a year. Circumstances may force them to do so sometimes, and temporary conditions bring teachers in for a few years, possibly, and then they leave. This matter of increase in teachers' salaries was made the subject of a referendum in Seattle a year or so ago, and of 94,000 voters, only 4,000 voted on the question at all, and the proposed increase was turned down by a substantial margin. That may have been a local condition but it is indicative of a nation-wide condition, the lack of interest in common school education on the part of the public, and these very people who cry out for the better instruction of their youngsters do not give heed to making the changes that will bring about such better instruction, and I believe, Mr. Chairman, one of the most valuable things this Association could do would be to drive home some of the very necessary things that must be done in every community before the improvements can be made, which are so necessary.

MR. STEWART SCRIMSHAW (Industrial Commission of Wisconsin) : I should like to have a word or two to say in defense of this proposition. I do not wish to disagree with the previous speaker, but I think he has not quite comprehended the whole meaning of the two statements under discussion. In one instance there is a statement of principle to the effect that it is not the function of the public school to perform a certain definite thing. In the next instance there is a statement of what we may term a question of fact, namely, that the public schools are not accomplishing a certain definite thing. I ask in all fairness how these statements can be necessarily inconsistent !

We must not forget one significant thing, and that is that the great mass of school children leave school at an early age, say fourteen years, and go into industry. It seems to me that if these children are allowed to go into industry we cannot escape the obligation of preparing them for such a venture. It would be absurd to assume that at an early age these people are competent for efficient employment. There must be some weakness in any public school system which is not taking care of the people who go to work. The boys and girls who remain in the schools may be taken care of all right, but it is not the people in the schools we are so concerned about, but those who go into industry at the age of fourteen or fifteen years of age with but a meager education.

We have to ask ourselves what the public school system is doing to educate these people after they enter into employment. Obviously, in so far as vocational education is supported by public moneys, it is public education and thereby becomes a part of the public educational system. One cannot talk about public education and limit it to what the public money provides for by way of the conventional schools; one must discuss the public school movement which is taking place today and which is reaching out in fields other than the proverbial and conventional academic schools.

I think I can speak from the standpoint of the Metal Trades and Founders' Association of Milwaukee, The Industrial Commission of Wisconsin, the State Board of Vocational Education of Wisconsin, and say that they are absolutely in sympathy with the statements proclaimed on page 568. As I gather it, it seems to me that these views are exactly those entertained by the educational authorities, and I think this report is excellent and shows what can be done. I feel, however, that the vocational educational proposition should be merged into this general problem of public school education, and discussed in conjunction with it, so that a proper and comprehensive treatment can be made of the whole subject.

MR. HARRY H. TUKEY (Submarine Boat Corporation): If I may have an additional minute, I think I can give a concrete example of cooperation between a corporation and the public school authorities, partly advanced by the interests represented in an association very similar to this.

I refer to the Atlantic Coast Shipbuilders' Association, which has its various chapters or sections along the Atlantic Coast. They have done a great deal, particularly in the New York and Philadelphia sections, to advance the interests of training men, during the war period. Training has somewhat subsided now in all the yards, except at Newark Bay Shipyard—others have discontinued their training departments. During the war period we had a Committee of Directors of Training of the New York

Section, of which it was my honor to be chairman—this Committee conferred with the school authorities of the cities of New York, Newark, Jersey City and the surrounding cities, and also with the State Boards of Education of New York and New Jersey. Public school authorities desired to assist in war training, but they did not know what to do. They did not know where to start nor where to end, and they came to us for assistance, for knowledge of the needs.

The training in the yard itself was being well taken care of by the yard schools, so far as training definitely on the job was concerned—the totally manual side of the work, and that technical side which definitely concerned the intelligent doing of the work. We were unable, however, to give a sufficient amount of attention to the finer details of drawing-reading in trades where drawing or blueprint-reading was required.

There was a phase of our work also that was necessary to touch upon, in evening trade extension work, and that was an elementary knowledge of the principles of ship construction. The evening schools of the city of Newark—I can speak of these schools perhaps a little better, because we were closely cooperating—secured from the Submarine Boat Corporation (and now the State Board of Education of New Jersey has done the same thing), and from other yards as well, the drawings of the ship's parts. There was no attempt on their part to teach the making of a drawing, other than the instruction which was given to the draughtsmen; but there was, on the other hand, a distinct attempt to teach men to take information from a drawing, as required in the yard.

The schools specifically met our situation and helped us considerably. About a dozen instructors for evening work were selected from the training departments in the several yards. They were competent mechanics who had been trained as instructors in the Emergency Fleet Corporation Training Centers for shipyard training work. Their evening school work was well done. They were paid for this evening work by the local and state authorities, that is, the state assisted.

There are a number of men whom I know have advanced as the result of the attention they put upon the evening school work. The latter part of last week I received a letter from the supervisor of evening schools of Newark, N. J., giving me a list of all the men in our yard who had attended the classes, their records of attendance, and the results of this attendance. We published this in our plant magazine, and requested the men whose names were mentioned on the list to advise us if they had received any advancement from the evening school work. I have not heard from them definitely as yet, but, as I say, I know several specific cases where men were benefited.

Plans are now being made by the State Board of Education of New Jersey to extend evening instruction to pipe-fitting, plumbing, and erection machinists' work. Incidentally, we are training men in the yard to do fourteen different lines of work, and there is no question in my mind but that we are going to continue to obtain a very desirable result from these combined efforts. The cooperation is a community proposition, shipbuilding has become a very prominent factor in the community within the past two years, and there is a very decided feeling that it will continue.

I think that it is the first paragraph on page 568, which is under discussion, and it seems to me, so far as the specific training is concerned, there is probably a certain limit to which we can go, and beyond which we cannot go. I think our trouble is really in trying to make a general rule, and it does not seem to me that a general rule will follow; for example, as concerned with a particular branch of shipyard work, the drawing-reading, there was a certain point to which the training department of the yard could go, and from that point on the school authorities could continue, and so it will work out in different lines, the converse of the situation being equally true. I believe that we are backing our heads up against a stone wall when we try to lay out a general rule which shall say that the public school authorities shall go so far, or that the corporation school authorities shall go so far. It will work out differently in different cases and must be met specifically.

President Rowe: Mr. Chairman and Gentlemen—We have four specific statements that are presented as problems. There was a time in the history of this Associaiton when it did not seem that it had arrived at a point where it was altogether ready to express an opinion on anything except the individual opinions of members, one and the other, as they crept into the discussions.

This Committee comes before you with a specific set of problems that seem to have back of them the authority of the Commissioner of Education at Washington, the U. S. Chamber of Commerce, and the American Federation of Labor, and our own expression of opinion, which coincides.

Now, I should like to have some determination reached as to No. 1 of these problems as a statement of fact. Is it a right statement or is it not a right statement?

CHAIRMAN SHAW: I should like to answer the point I think one of the early speakers made about this first paragraph. He said that in his opinion there was no gap between the school and the job. I am afraid he was thinking only of the time element. We deliberately left out of the statement the time element as such. We qualified the gap in this way: "There exists a gap or break between the point at which the general education of most boys and girls ends in the public school and the point at which they may advantageously gain a foothold in commercial, industrial, or professional life."

In other words, I might go out and get a job tomorrow, or it might be two years from now, and I could fit myself for a specific job in industry or in commerce. It does not necessarily follow, if I leave school today and enter industry tomorrow, that I will get a job of financial advantage or any other advantage to myself. That is the point we are trying to make and not the time element. I will ask that speaker if he does not agree with that.

MR. GARVEY: I should like to say this—there is always a time in any boy's life when he can advantageously go to work. The laws of the State of Illinois do not allow a boy to work in a machine shop until he is sixteen years old. If he leaves school when he is fourteen expecting to enter the machinist's trade, he must take a position where he is not operating a machine; what he should do is to stay in school until he has reached the correct age. That is the way I look at it. I do not mean to give you the idea that a boy should not leave school before sixteen if it is necessary for him to become a wage earner, but that is not the fault of the school, and neither is it the fault of the industry, but the fault of the individual.

PRESIDENT ROWE: The statement is: "There exists a gap or break between the point at which the general education of most boys and girls ends in the public school and the point at which they may advantageously gain a foothold in commercial, industrial, or professional life."

Where are we in industry? We have the representatives of our great concerns sitting at the doors of our technical schools, waiting to receive with open arms the brilliant graduates of each class. Where is the break there?

MR. ALBERT C. VINAL (American Telephone and Telegraph Company): We ordinarily do not employ stenographers with only grammar school training because they are not competent to measure up to our standards of work.

MR. F. C. HENDERSCHOTT (The New York Edison Company): I will bear testimony to that so far as the New York Edison Company is concerned. We cannot use commercial school graduates who have taken a stenographic course. We are glad to get the high school graduates who have learned their stenography in the high schools of New York—they are very satisfactory.

MR. TUKEY: Is not the answer contained in the statement itself, between the point at which "general education" stops and perhaps specific or vocational or industrial education begins, and "the point at which they may advantageously gain a foothold in commercial, industrial or professional life." Does not your vocational school take care of, or is it not attempting to take care of, that gap? Is not the answer contained in the words "general education"?

PRESIDENT ROWE: At what grade in the school, primary or secondary, would "general education" stop?

MR. TUKEY: The general education, I would say, should stop in the grammar school.

PRESIDENT ROWE: It does stop there, because 90 per cent of the pupils stop there.

MR. TUKEY: In various states, as the pupils go into the high school, the specific education commences. They may go into the high school or vocational school, or technical school, or what not, but that school, I feel, is attempting to take care of the gap.

PRESIDENT ROWE: You mean the secondary schools?

MR. TUKEY: Yes, the secondary schools.

PRESIDENT ROWE: I should like to ask the question how many here are convinced that there does exist "a gap or break between the point at which the general education of most boys and girls ends in the public school and the point at which they may advantageously gain a foothold in commercial, industrial, or professional life"?

(Thirty-three members raised their hands.)

President Rowe: How many think there is no such gap?

(Two members raised their hands.)

Mr. Barringer: I want to qualify that when I get a chance.

President Rowe: You all believe there is a gap?

Mr. Barringer: Make it the eighth grade and I will agree with you.

Mr. Tukey: I will agree to do the same as Mr. Barringer, but you will never get anybody to agree where education ends.

President Rowe: I was going to point out the futility of that whole proposition as such. Who is going to define where general education ends and special education begins? Are you giving your student a general education when you are teaching him to read?

Mr. Tukey: Yes.

President Rowe: When he uses that same education in a special line, have you not been teaching him industrial education to that extent, from the start?

Mr. Tukey: Yes.

Chairman Shaw: No. 2: "It is not regarded as the legitimate function," and so forth.

President Rowe: I would ask you to let us discuss that proposition.

Mr. Vinal: I move that we accept that proposition.

Mr. Henderschott: I second the motion—I do not think there is any difference of opinion.

President Rowe: No, no difference of opinion.

(The President then put the question to vote of approving of the second paragraph, and it was unanimously approved.)

President Rowe: The third item is as follows: "It is reaffirmed that an efficient and comprehensive general education, such as should be possessed by all citizens in a free democracy, is a necessary provision that should be made a public expense."

I will agree to that, provided you will insert a sentence in the paragraph that the remuneration for teachers shall be sufficient to procure people who can give that kind of an education.

Mr. Kincaid: Mr. Chairman, I will accept that amendment——

President Rowe: It is a disgrace to our nation, to expect to have the necessary talent in our schools, to have teachers to train our boys and girls properly, and do the things that we require them to do, for the amount we pay them—it cannot be done.

How many are in favor of the amendment?

(Nearly all the members raised their hands.)

How many opposed to the amendment?

(No member raised his hand.)

MR. HENDERSCHOTT: When you have completed the different questions, I have one to bring up for just an expression.

PRESIDENT ROWE: What is the next one?

CHAIRMAN SHAW: The fourth point is: "It is believed that to this general education should be added provision for assisting boys and girls to determine the directions in which they may make the best use of their native talents and opportunities, and to prepare for useful service in the world. This provision should be made at public expense and should be made available to all boys and girls."

That does not mean specific jobs, but simply finding out which line a boy is interested in: commercial work, engineering work, professional work, or industrial work. It does not mean that he has got to be trained to be a printer or an industrial machinist, or an artist, or an engraver, or what not—simply along broad general lines, to know if he wants to become an industrial worker, a commercial man, or a professional man.

PRESIDENT ROWE: Broad informational lines..

MR. HENDERSCHOTT: I move that we accept that.

PRESIDENT ROWE: I would like to put in on "broadly informational lines."

MR. HENDERSCHOTT: This does not begin until after the scholar completes the eighth grade?

PRESIDENT ROWE: No.

MR. JOHN CALLAHAN (Industrial Commission of Wisconsin): Does the gentleman intend to convey the idea that he is willing to have them go to work, no matter what their age is, when they finish the eighth grade on the programme of work only?

MR. HENDERSCHOTT: We have no such thought—I am not defining when a boy shall go to work, but defining that the boy shall have some opportunity at public expense to determine broadly along what lines his particular abilities lie.

MR. PRESIDENT: That is the general expression of your idea. Is there any objection to that? Is there any opposition? Please indicate. The Ayes have it, and it is so ordered. What is the next thing?

Chairman Shaw: Those are all the statements made in connection with the problem. The fifth point is as we will go into the subject to try to determine as to what cooperation may judiciously be given by commerce, industry and labor. I think now is the time for Mr. Henderschott to make his point.

Mr. Henderschott: This is the proposition that developed quite unexpectedly, and is so contrary to all my previous beliefs and experiences that I thought I should like to take the opportunity to find out whether I have been quite wrong or whether or not the particular people who advanced this proposition were an unusual lot of people. It developed in this way: In the course at New York University which our Association devised and which is designed to develop educational instructors and directors for corporation schools, the question arose as to the particular abilities and value of college graduates in industry compared with non-college graduates.

In this particular class there were about twenty-two, and of this twenty-two there were six who were college graduates, and one of the college graduates made the statement that the process of selection is a greater determining factor than the knowledge they received in college. Every one of the college graduates agreed with him, and every one of the non-college graduates disagreed with him.

This is the point—boys and girls start in at school at the first grade, and a certain percentage drop out all the way up, until about two and two-thirds of those that are eligible, that is, of college age, in this country are in college.

Now, you have had a process of elimination all the way up, the supposition being that the more intelligent, who have the money, or whose parents have the money, are the ones who graduate; and the least intelligent, or the ones whose parents have not the money, drop out; and the contention was that the process of elimination was a greater determining factor as to the number of graduates from colleges than the knowledge they received.

I was around when it was put to a vote of these college graduates, when the class of twenty-two voted on the question, and the sixteen non-college graduates voted solidly that it was the instruction they received rather than the process of elimination that determined their ability to graduate. I should like an expression from the members on that point.

MR. G. A. GLYGER (Marshall-Wells Company): Did the six work their way through college?

MR. HENDERSCHOTT: I do not know.

PRESIDENT ROWE: The college man who graduated has the answer all right, and will give it to you, and the fellow who has not graduated has the answer, but it will be different; but you want to get at the facts from an unprejudiced jury.

MR. HENDERSCHOTT: I do not know how I can get at it. I do not know how many college graduates there are here today, but it puts a new light on secondary education before my mind. I do not know that any of you have thought about it. I had not before. It came to me accidentally, and I put the point to the non-college graduates, and they said that native intelligence was a bigger factor in their graduation than the knowledge brought to them and that was assimilated and applied.

DR. A. J. BEATTY (American Rolling Mill Company): It seems to me that the sixteen of the twenty-two who voted as they did were forced to do so or it meant they were inferior in that respect to the others. You took them at a disadvantage. It also seems to me that the selective process which goes on is the determining factor. We see all around us nearly as many men who have not gone through the colleges or technical schools, simply from lack of opportunity, and we find fully as many of them in good executive positions as college men, or very nearly as many, so I believe that it is the selective process which is operated there.

PRESIDENT ROWE: Whether they are in or out of college?

DR. BEATTY: Yes.

PRESIDENT ROWE: It is the survival of the fittest, you think, to put it in another way.

DR. BEATTY: I think so in every case. The man who makes good without a technical training is the superior man from natural talents and intellectual ability, and he simply lacked the opportunity to get the technical education, but that lack did not keep these fundamental talents from showing up at the proper time.

PRESIDENT ROWE: The fellow with the fundamental ability and talents is at the same place where some other fellow who went to college and did not have as many talents and fundamental ability, and was helped by his college training?

DR. BEATTY: Perhaps so, but the man who makes good, without a college training, gets there in spite of that lack.

MR. HENDERSCHOTT: I should like to argue that point. In the first place, we knew each other too well in that course for anybody to be at all sensitive, and I am positive that is not a factor at all, but it might be in a meeting like this. Consequently, if Dr. Beatty is correct, how is it that the percentage of people who succeed in the arts, sciences, professions, including even law and statesmanship, is constantly in favor of the man or woman who has received a college education? If you take the statistics of the last ten or fifteen years, you will see that the percentage is constantly increasing in favor of the person who has received a college education. That is only a small percentage of the people of the United States. If a man has not had a college training, but has considerable ability, of course, there is no reason why he should not make good; but statistics show that the chances of success are increased by a college education.

MR. CALLAHAN: I think it was Elbert Hubbard who said that every man should have a university education, so that he might know how little it was worth. I am inclined to think he was right. The man who has not had a college education is likely to feel that the college man has a long lead on him. When he wakes up to the fact that he hasn't, it is too late. I think that has a great deal to do with it.

There is an idea in the minds of most people that the man who has not had college training has not been educated. I draw a distinction between schooling and education. I have done this ever since I heard Bishop Vincent deliver his lecture on "Tom and His Teachers," in which he drew this distinction very clearly. We are all educated, for good or bad, by everything we come in contact with all through life. Doubtless we are all acquainted with men whose schooling was less than that represented by a high school course, but who in middle life, if associated with groups of college trained people, one not knowing their past history would find it impossible to pick them out as men of less training than the others. They are men who have had exceptional opportunities and profited by them. They have discovered that the college man has not a long lead on them.

Mr. Vinal: It seems to me that this question is one which requires a further analysis as to what sort of jobs you are talking about.

President Rowe: Any job, if you have a college education.

Mr. Vinal: I made an analysis in our telephone operating organization and found among the people in executive positions in the field, people in administration charge of districts, divisions and offices and who were not doing engineering work that required constructive imagination to a high degree, that half of them were college trained men and half of them were not. In a general way, the half that were not college trained were doing as effective executive work as the half that had had the college training.

On the other hand, in the staff positions, in engineering and in those lines of work which require constructive imagination and the application of scientific methods, nearly all of these positions were filled by college trained people. The college training develops a relatively greater degree of ability for constructive thinking, but not necessarily executive ability.

The same thing was found to be true among the women. We can develop just as fine executives from the fine, bright girls who grow up in the business as from college graduates, but when it comes to developing instruction material, setting up school programs, and all that sort of thing—work that requires constructive imagination—the college trained women excel.

Mr. Henderschott: I have one more thought that developed in that connection. The man who made this statement was a teacher in the Pratt Institute (a very fine educational institution), said any man can get philosophy from his machine, he can get philosophy from his day's work, and he can get philosophy from his work on the farm. Now, the supposition is, that a man succeeds better, as Mr. Vinal has stated, because of his ability to imagine, and he does these things better if he has a college training. This argument is advanced on the basis that a man can get philosophy from these things, and does. Certainly a man has a broader mental development if he has studied music, biology, Latin, geometry, etc. Does he not, by acquiring knowledge along these lines, at an early age, have an advantage over the fellow who must obtain this knowledge by a slower process? Maybe the answer is there.

President Rowe: During one of my business trips I met a learned judge who was going that night to visit his son who was to graduate the next day from one of our most influential universities. I asked him what course his son had pursued. He said, "I do not know." I said, "Judge, I do not understand you; you yourself are a man of very fine distinction in your profession, and a clear thinker"—you would all know this man I am speaking of if I mentioned his name—"and I should think you would have been very particular about the course of study, the selection of the training of your son in the university." "Well," he said, "no, I did not. I am particular about that, but I did not lay down any rules. I took my son to the Dean of the University, and I said to him, 'I want you to take my son here, and in the time he stays with you I want you to teach him to think straight, and that is the only requirement I want.' That is the only result I wanted. I did not care what they taught him so long as they taught him to think straight—the instruction would be perfectly satisfactory to me." You might put that down in your book and turn it over in your mind, and see if that is a good definition of education.

Dr. Beatty: I would like to restate the statement made a minute ago in another form to make my position clearer. We are making a mistake in logic; by assuming that two things, which happen to be together, are in a casual relation. Success in any industry and a college training are two things which we know are frequently found together, but I do not think there is any fundamental relation between these two. I think they are both the result of fundamental intelligence—superior fundamental intelligence. A man frequently gets a college education, not as a result of his fundamental superior intelligence, but as a result of accident, very largely. It is often a matter of whether his father has the money or not. I do not think there is any casual relation between college education and success in life. Success in life is the result of superior intelligence, and college education does not affect that, neither does success in life affect it, but success in life is the result of it.

Mr. George N. Vander Hoef (Dodge Manufacturing Company): I am not quite clear whether I understand Mr. Henderschott's question or not. I think I got Dr. Beatty's idea, however. I think the whole point is really a question as to whether or not a college education is a decided advantage. I think it is largely like the case of training workmen in the shop—it raises the average. We get confused by thinking once in a while of very distinguished men who have not had a college education, and who have become world-famous—in fact, many of the greatest inventions in the world of science have been made by men who were not college men. There are the exceptional cases.

We have the exceptional case in the shops, with some of our finst mechanics, who have had the opportunity to educate themselves. If we take a training method and apply it to a thousand workmen, we can raise their average of efficiency very much. In industry, any man who can get a number of college graduates can have the average of his staff increased very considerably by their addition. It is not fair, in considering the subject, to talk of the exceptional case on either side. It is a case of the law of averages and success of larger masses treated either with or without the college education.

MR. W. W. KINCAID (The Spirella Company, Inc.): I think the chairman has touched the vital point of the whole matter. We have some men who go to college to get an education, and a lot who do not. The main object in going to college is to be taught how to think. I do not care how much schooling a man has had unless it develops in that man the ability to use his mind, and body, and all his talents in a way to meet and solve problems, he is not educated. It matters not whether he went to the secondary school or anywhere else, or went to the best university in the country; he is not an educated man unless he has learned how to use most effectively his body and mind.

What the industrial world wants to day is a man who can go into business and take the problems of that business and think through them, and has the courage to follow up his thought by right action. Is that not what we are doing? Is that not the whole object of The National Association of Corporation Schools? What are we trying to grapple with? We are trying to grapple with the actual problems of business in industry, and who is going to grapple with these problems, and who has the capacity for thinking straight, except the man who is taught, and I do not care whether he was taught on a farm and gets his basic philosophy there, or taught in a university—the man who has his mind trained so that he can think in an effective way, and take hold of and solve these problems, is the man who is really educated; and I think the matter of college or non-college education should be left out of it. What we want is the man who is really educated, and we do not care, particularly, how he received that education.

MR. JAMES MCKINNEY (University of Illinois): I have been interested in this discussion on the values of the college education. I am a college graduate myself and happen to be connected with the University of Illinois, and I see a general advantage in a college education. To me the college education is, after all, the union label of an education, and that union label counts for something in this world. It gives a man that much of a start which we were speaking about some minutes ago. It brings him into a circle of acquaintances which the laborer never gets a chance to get into at all, and that is half the start in life, as you all will agree.

I would agree with Mr. John Callahan, Director of Vocational Education for Wisconsin, who said there is a difference between education and schooling. Education is what we want, but it does not make any difference where we get it. After all, it is that power and ability to think, as Mr. Kincaid has said, that we want—the power and ability to solve problems as we meet them, and all our education ought to be directed in that way.

Our school work, unfortunately, does not do that very much yet, and the university does not do very much yet, either.

You may be interested to know when they gave the general intelligence test to the freshmen of a certain college and repeated the same kind of a test to the graduates, the freshmen came out with a higher percentage than the graduates, but that does not mean anything. I hold this, whether a man is worrying over Greek verbs or Latin prepositions, or over the problems of steam engineering, if he is really working with the problem that he has in front of him, and looking after all kinds of lists and references to help him on his problem, that man is being educated.

I am not surprised at these men in Mr. Henderschott's class saying what they did. I have heard this before and it comes from a lack of appreciation of real values in education. These fellows, when they first come out of college, begin to think what the college education had not given them; they are up against the practical problems of life, and, curiously enough, they will go back to college in about eight years after they have been out in the world and say, "The theory is what we wanted; you did not give us enough of that." After all, energy is sometimes more important than book-learning. I fancy a great many of the captains of industry got their training for captaincy in industry as captains of football teams and other kinds of teams.

Life is education; we are being educated here, I hope; I am, at least. I always feel when we are discussing these schools and colleges, and I hear you people criticize the school, that somehow or other you should put the shutters over the windows of your own consciences, because it is pretty hard to throw stones at glass windows.

MR. VINAL: I want to make one point, growing out of the remarks of the last speaker, and bearing on these four points; that is, that industry must be primarily an educational industry. I think that is rather pertinent in this whole democratic movement at the present time. It not only involves the education proposition, but it involves the whole movement. The whole question is whether or not industry is to be a greater and greater force in the community. The whole question of profits versus service comes in there. That is one of the reasons why the whole problem is undetermined as to how far the school should go and how far industry is to go; but I am of the opinion that most of us connected with industry believe it is very valuable for the student to have the conception that industry must be, in the last analysis, a great educational institution all the way along.

MR. KINCAID: I am greatly interested in this subject. I agree with the last speaker. I would make it influence industrial life. I think our attitude toward life controls the education we will get, whether we have been in collgee or not.

CHAIRMAN SHAW: We started out with a discussion of secondary school education, and we have been through high school, and graduated from college, in one convention. It is all to the point of education in its general phases, and there have been a good many good points brought out, enough to indicate that there is no general agreement upon the exact methods and ways in which the problems should be met and solved.

In leaving this report and this part of the program, I merely want to emphasize again that in the case of every one of us who senses the lack of proper fundamental training in the public schools as far as fitting pupils for industry or commerce is concerned has an obligation resting upon him—let each one try to express this lack in very clear and concrete terms to those people who are responsible for public education in our own communities, and to seek to cooperate with them, and I am sure that when we come together next year we can all report upon some progress having been made in solving these problems.

The meeting stands adjourned.

COMMITTEE ON METHODS OF INSTRUCTION

Mr. JAMES K. BRUGLER, Jr., *Chairman*
WESTERN UNION TELEGRAPH COMPANY
New York City

Mr. D. C. CARPENTER
INTERNATIONAL TEXTBOOK COMPANY
Scranton, Pa.

Mr. JOHN C. LYNCH
BELL TELEPHONE COMPANY OF PENNSYLVANIA
Philadelphia, Pa.

Mr. LOUIS L. PARK
AMERICAN LOCOMOTIVE COMPANY
Schenectady, N. Y.

Mr. PAUL SUPER
INTERNATIONAL COMMITTEE—Y. M. C. A.
New York, N. Y.

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The appendix to this report has been taken from a thesis on "Methods of Industrial Education" by Nanette Hamburger, New York University.

THURSDAY—AFTERNOON SESSION

METHODS OF INSTRUCTION

THURSDAY AFTERNOON, JUNE 5, 1919

VICE-PRESIDENT KINCAID, *Presiding*

VICE-PRESIDENT KINCAID: The next business is the report of the Committee on Methods of Instruction. I regret that Mr. James K. Brugler, Jr., of the Western Union Telegraph Company, Chairman of this Committee, is not present, but the report will be presented by Mr. Louis L. Park, of the American Locomotive Company, a member of the Committee.

MR. L. L. PARK (American Locomotive Company): It is a matter of much regret to me personally that Mr. Brugler is not here to present the report of the Committee, for Mr. Brugler has been at the head of the Committee on Methods of Instruction for a number of years. I believe, in the present report, together with a confidential report previously issued, the Committee has fairly well covered educational methods as applied to the corporation school.

It seems to me that the discussion which we have been having might well be continued under the present subject, and that in reality the question of educational methods deals with the purpose and plan and scope of the corporation school.

The method that we shall follow in our schools depends upon what we aim to do in those schools, and so we should ask ourselves, What are we trying to do in our schools? Are we trying simply to transmit information or are we trying to develop our people so that they may be in line for promotion, and will we be able to hold positions of leadership in the coming years?

So it brings us back to the question we have just been discussing, namely, the purpose of our school, and to what extent we are going to make it educational. If the corporation school is to become an educational institution, then our methods must be such as will tend to develop to the highest point those who will go through them. On the other hand, we realize that the scope of our corporation school must be more or less restricted. The time for instuction is limited, and, much as we would like to have it educational in character, very often we are required to confine ourselves to a less complete program, and compromise on the work which we started out to do.

So I hope this afternoon, in the remaining time, we may discuss somewhat freely what our notions are of the extent to which corporation schools shall be made educational institutions, and the extent to which the corporation school may be made to supplement the lack of many of our young people in the limited time which the corporation school is allowed for its operation.

In presenting the report, the Committee has endeavored to do several things. First, to give the teachers of corporation schools something by which to check themselves and their work as to its educational value; in other words, how efficiently and effectively they are following out the program. The purpose has been to show something of the manner in which pedagogical principles may be brought into corporation school work, and as I said before, to give the teachers a chance to check up in some way the things which may be accomplished, and compare them with what they are actually accomplishing.

The report goes on to say that it is comparatively easy to find among the teachers in public schools those who can qualify as teachers in corporation school classes which are operating for general education; but it is more difficult to find those who have had training as teachers and who can qualify for our more technical courses. I think many of us who have had experience in apprenticeship work and other corporation school work have found that particular difficulty of finding the people who can do well both ends of the work, and so the question naturally arises. Is it better to take into our work men and women who have had training as teachers, and allow them to become sufficiently familiar with the technicalities required to enable them to teach intelligently these subjects, or should we take people who have grown up with the trades or with the particular work, anl allow them to take special courses in teaching methols, so that they will be able to do their work efficiently?

I think most of us who have taken people from the trades into our work have found very often that the people who are the best mechanics have the least ability for transmitting their knowledge and their skill to other people. So the problem is a real one and one which I think we may well discuss.

In the latter part of the report there is given a résumé of teaching methods, and a bibliography to enable those who have had no special training in teaching to take up reading courses to supplement their knowledge of teaching practice.

There is a number of questions we might take up in our discussion this afternoon, such as: Is individual work in the school preferable to class work? Can we accomplish more by giving individual attention to the student rather than having the work conducted on the class principle? Are we making as good use as we could of laboratory equipment, models, etc., whereby students may be helped to make their own way in the study of subjects rather than to depend to a great extent upon lectures and explanations.

Are we planning our schools for the exceptional student or for the average student? I think we all realize that one of the difficulties of school work is to take care of all the grades of ability presented in the class. To what extent do the students make use of the technical knowledge imparted in the school? It is one thing to put a student through a course of study, conduct an examination, and rate the standing of the student, and it is another thing to have the student able, shortly after, to take up some problem related to that course of study and go to a successful conclusion. Are we developing reasoning as against memory work? Many of the brightest students apparently are those who have the best memories, and who, because they can keep in mind a vast amount of knowledge, are able to pass examinations with a high percentage, while some others, who may have better mental ability, and with less memory power, will not make as good a showing.

These are some of the questions which I think we might well discuss.

VICE-PRESIDENT KINCAID: This report should be of as great interest as the one that preceded it, and we ought to have a very full discussion.

MISS ANNE DURHAM (Western Electric Company, Inc.): I wish to answer the statement that the stulents who have the highest standing in the college classroom are not heard from. It seems to me those are the students who have the ideas, and it is for the rest of us who have not such brilliant minds to carry out their suggestions, and if we did not have these theoretical things to work on, we would not—very many of us—get very far.

MR. HARRY H. TUKEY (Submarine Boat Corporation): Relative to the practical man as a teacher. I stated yesterday afternoon that we had one hundred and twenty-five instructors in our training department. Previous to that, at the Boston Navy Yard, I had a staff of twelve instructors; again, previous to that I was connected with the Boston Continuation School, and also with the Massachusetts Board of Education, in the training of vocational teachers. In Massachusetts the plan was, at that time, if it is not now, that the man teaching in the secondary school should have had practical experience, and I believe that the men teaching in the vocational school to-day, and I would apply this to the corporation school as well as the vocational school, should have at least five years of practical experience in the trade he is teaching.

The same requirement was put up by the Shipping Board for shipyard instructors. These men were put through a very intensive course—a course of instructor training. Mr. McKinney, who spoke to you a few minutes ago, was one of the instructors on the staff of Mr. MacNary, who trained instructors for the shipyards.

With reference to the third section, on page 621, "General educational courses designed to give the employes an opportunity for general educational broadening, perhaps something that they have been denied in their school days," I think the school teacher would succeed in this type of work; but generally for industrial training, the best result will be obtained from the practical man trained as a teacher, for he, and he only, has a thorough knowledge of the trade, so that he may analyze it, and realize as well what the employe must know.

We speak of analyzing the work that the teacher must do. I often think we do not go into our analysis far enough. We fail to put ourselves into the position of the other fellow who is trying to learn. We emphasized that very strongly in the Massachusetts work and the Shipping Board work. Putting the instructor in the other fellow's position and making him realize how hard it is for the other fellow to learn, and how small an amount of instruction he can grasp at one time, in my opinion, is the keynote of good instruction.

As to the point relative to theory and practice, Mr. Park made the statement—I do not know that I can quote him correctly, but it was to the effect that there was a difficulty in the carrying through to the classroom instruction the information and knowledge which is common in the shop. In ordinary school practice the theory is given before the practice, but there is no foundation to which the theory can be attached. That is what Mr. Allen "hammers" in his book, "The Instructor, the Man and the Job." There is a "cold storage practice" for laying out a course of instruction for the machinist or the electrician or other line of work, and we rigidly follow that prescribed course of instruction in the classroom; we give the students information to-day which may be applied to-morrow, or it may not be applied for several weeks, or perhaps for months. He must keep it in "cold storage" until the need arises. Would not it be far better if we organized our classroom work along with our layout for shop training, organize it in conjunction with and subsequent to our shop processes, so that the boy, the apprentice, or whoever is the student, may first get the foundation to which he can tie up the theory? I think that is one great trouble with the college education, and one great trouble with the manual training schools. It has been insisted on in Massachusetts—I hope the Massachusetts man is here this afternoon—that the practice shall be given before the theory. By that we will eleminate a great deal of the "carry over" from "cold storage."

ACTING CHAIRMAN PARK: There is one thing I might add to what was said on the matter of carrying the information into the shop. Very often the school will feel that when it has once covered the subject, and the subject is thoroughly understood, that therefore it is usable. That is not always the case. Let me illustrate it this way: Suppose the instructor in the machine shop class has given the boy the theory of figuring pulleys and gears, and has given him problems which will cover figuring out the chain of gears on a lathe, for example. The boy has gone through that study and obtained correct results, and the instructor says, "Now, that is all on that subject, and we will go on with something else," and he goes on with other problems. Possibly two or three months afterward there comes up a problem which requires the figuring of pulleys and gears, and he finds the boy has forgotten all about it, the knowledge that he got so nicely in school, and which was thoroughly understood, and which he was able to apply and use in a practical way, has entirely gone. The element of repetition comes into school work, an element which the trained teacher understands very well, but a man who is not a trained teacher is apt to think that a principle having once been understood by the boy, it should always be understood, and there would be a failure to properly allow for the necessary element of repetition in school work. That is what I had in mind, not simply the fact that we give other things which have no relation whatever to the work which the boy may do.

MR. TUKEY: My idea is that better results would be obtained if the related information contained in the course could be given to the boy at the time it would first enter in the shop job. Now, it frequently happens that he receives the theoretical instruction in the classroom concerning the job, and cannot actually apply that instruction to the job until some time later, and in the meantime the information has become less distinct in his mind. There might be some repetition of the work, if carried on as suggested, but there will be a better foundation upon which theory may be built, than if he was given the theory to-day and the practice in a week or a month from to-day.

ACTING CHAIRMAN PARK: I wish we might have further discussion of the place on our program which we give to memory work or give to information, and the place which we give to work which is intended to develop the student. To what extent are we trying to provide for their mental development, and to what extent are we handing out information to them, even though that information is immediately applied?

MR. W. N. FENNINGER (Brooklyn Edison Company, Inc.): There are a few points in the report which I do not think have received sufficient emphasis in the discussion. Perhaps one reason why there is not much more discussion is because the report is very exhaustive and very well put together. It is the first report which I read, of all the reports issued by the Association for this meeting. It has a great deal of very good information in it.

One of the points which the Committee mentions, but does not emphasize enough, is the personality of the instructors. Someone said this afternoon that instructors are made and not born. Perhaps that is a debatable question. It is always a question whether certain things come from native ability or by training. It is certainly true that good teaching methods are important, and I do not wish to minimize them in the least, and I am glad to have the tabulated information given here; but there is one thing which must not be forgotten, and that is that you must have your boys or girls, or men or women, with you. There is one thing I have always insisted upon in my teaching experience, and that is that there shall be very little driving. I do not drive my class. I generally tell my fellows just once at the beginning of the year, that if I have to drive them there is only one way I will do it, and that is out of the door. That brings up a point which has been mentioned, namely, the importance of developing our men, and not pouring the matter down their throats predigested.

I have never used any one method exclusively, but I have used a combination of the methods mentioned in this report, because I believe in variety.

One thing which I found was helpful in the work is to use the "question and answer" method, if it is not carried to an extreme. We have heard of teachers who were asking fifty to one hundred questions in one recitation. I do not believe any "question and answer" method should be used in that way. I would rather ask two or three questions, which develop the student's ability to work out consecutive steps in the reasoning. I do not like to ask a question which can be answered by "yes" or "no." That is one mistake I have seen among the younger instructors in technical subjects. Let us get away from asking questions which can be answered "yes" or "no" or by "five" or "fifteen" or "twenty-five." Let us ask a question which, when we first meet the student, requires only one process of reasoning, and which could be answered "yes" or "no" substantially. Later let us go to some questions generally made up of two or three ideas, tied together, with a process of reasoning also involved in the answer, and I believe we will get better results from that method.

Mr. John Callahan (Industrial Commission of Wisconsin): The gentleman says he does not drive his students. I think from his statements it is a debatable question. He says to the student, "If you do not let me lead you along the way you should go, out you go." The worst driven high school I ever saw was run on that basis; rather it is run in a community where they had a waiting list. The principal of that school said: "Anyone who is not attending to business can get out of the school; there are those waiting who will attend to business and make better use of it than you are doing."

Mr. Fenninger: I accept the gentleman's amendment and qualify my statement to that extent.

Mr. H. S. Craigmile (The Goodyear Tire and Rubber Company): In our industrial school we have not as many instructors as this gentleman has; however, we have about 1,225 students. Very much to our regret, we have found in many instances that the student that made the best showing in the class was the least efficient in the department. That is something to which I have given a good deal of study, and I have never yet arrived at a logical conclusion as to why such a condition prevails. I have followed out a number of different cases and have always found a different reason. On the other hand, we often find that the men who are the least proficient in our classes are the best mechanics. One reason I may advance for that is readily shown by the fact that we have in the same class at the same time students who have finished about the fourth or fifth grade in grammar school, and high school graduates. We have not as yet the space or the facilities (we have about 200 classes a week in 22 schoolrooms) for grading these classes as carefully as we would like to—that is, into smaller divisions, according to regular academic school grades. But we do prepare all our own subject-matter, and we always have something in the lesson which will be interesting and instructive to the most advanced mind, and still not too difficult for attainment of the least educated student.

I should be glad to hear a discussion on the point, as to why this difference occurs, that of the fact that the man most advanced in school often falls down in the shop, and the man who is the best mechanic in the shop falls down in his school work.

I have answered one of the questions put by the Chairman as to the group instruction or class instruction. It is necessary for us, of course, to have class instruction. We have so many students and cover such a range of previous education, that we would be absolutely unable to handle it in any other way.

As to the instruction for the exceptional or average student. We have some special classes for exceptional students, and we, of course, have special classes for college graduates; but the men coming from the common schools or high schools are trained in the same class, and of course the instruction must be adapted to the average student. I may say we have attained some very excellent results through mixed classes of this kind in training executives for the plant. Most of our classes are considered as preparation for future executive positions.

MR. TUKEY: I think the situation described by the last speaker is similar to the one which occurred in our first school system, where we found we had certain boys in the school who made good from the standpoint of book-learning, and certain boys who were better adapted to the manual side. Therefore we established a school in which the manual phase of the situation could be given attention. Your work, I should judge, is entirely classroom work; that is, regular school work of a general educational nature? We have a number of spaces with pupils in them, and a blackboard and teacher——

MR. CRAIGMILE: Supplemented by trips through the shop?

MR. TUKEY: Surely, but there is no manual work involved in the shop.

MR. CRAIGMILE: Yes—

MR. TUKEY: Are there instructors in the shop who are teachers?

MR. CRAIGMILE: They are closely correlated—

MR. TUKEY: Are those men who are excellent mechanics in the shop—talking of our students in your school, who are strong in the shop and weak in the classroom, and others who are weak in the classroom and strong in the shop, but concerning all the time the student body, are those the men who are excellent mechanics in the shop sometimes teachers in the classes?

MR. CRAIGMILE: Yes—

MR. TUKEY: I think it is a matter of being either long or short on either the mental or manual side.

Mr. Craigmile: I would like to take another minute. In our plant the inspector is a minor executive. Our organization runs somewhat in this way: the inspector is the lowest grade, or first step on the ladder of the executive positions. Next in line is the head inspector, who oversees the work of a number of inspectors. We work three shifts a day, so that it is necessary for us to have shift foremen, and the best man in line for promotion gets one of these positions; then he becomes a department foreman, then general foreman, and so on up to the position of production superintendent.

We lately inaugurated classes for our inspectors. I may say every executive in the plant, except some of the inspectors, are in school. All of the major executives, from the production superintendent down, are taking some kind of educational courses. When we lately inaugurated the classes for inspectors, we did so to improve the personnel of the executives. It was rather distressingly disappointing to find, after the course had been running about six months, that one of the men who was showing up the very best in our classes was discharged for inefficiency. It was equally distressing to find that the man who was graded around 40 in our courses, which covered business English, business mathematics, department operation, department costs, etc., was promoted to the position of head inspector. We had been conducting these latter courses for about two years.

We may be able by certain laboratory experiments to find out just where we are, and I have made this statement partly in the hope that someone may be able to help us out.

Acting Chairman Park: I think you will find that you must deal with individuals just as you do with different materials. You work your cast iron differently from what you do your steel, and so it is with the different human material which has come under our supervision and care; we must work on it in different ways. Some of these people are lacking in imagination. They can do almost anything with the tangible things, materials and drawings and tools, but when it comes to the imaginary things, such as abstract quantities and principles, things which are required in the school work, you strike them in their weak spot; so I believe we must make a study of the individuals in the school, and handle each according to his characteristics. This makes it essential that we should try, as far as possible, to classify the student material and group them, if you can, according to their mental ability, one class for boys who are slower students but good mechanics, and other classes for those who are good students, and can go ahead more rapidly, but are not as good mechanics. Each requires a special treatment to bring out his weak points and help him to round out his abilities.

Mr. C. P. Davey (The National Cash Register Company): We have been talking along academic lines for the last half hour, I guess, more than we have along the practical lines. I wonder what the other people, or some of our friends here, have done along the practical lines—that is, the actual operation of machines. May we have some sort of discussion on that phase of the subject, or is that out of order?

Vice-President Kincaid: Anything along the line of teaching methods is in order. Mr. Davey would like to have a discussion of the best methods of teaching machine operation. In other words, the use of machines; and if you are going to have certain machine operations in the shop which you are going to teach the student, what is the best way of going about it?

Mr. Craigmile: I shall be glad to give an outline of the apprentice course in The Goodyear Tire and Rubber Company.

Vice-President Kincaid: It is not so much what you are doing in the shape of routine work, but if you are going to teach a man some particular thing; for example, if you are going to teach a man to run a lathe, what is your method of procedure? Is that your idea, rather than the rotation of work about the shop, Mr. Davey?

Mr. Davey: That is the idea.

Mr. Craigmile: Our apprenticeship course lasts three years. The first year we give the boys shop mathematics and mechanical drawing. We start them in English and give them a certain amount of bench work, so that they progress along the lines which are followed in our technical schools. For instance, when the problem of ratio and proportion in mathematics is reached there is an instructor to take the boys down into the shop and show them the ratio of chains in a chain block or change gears in a lathe. When we get to the point in shop mathematics where we are teaching them trigonometry, we can show them how the milling machine head operates.

We try to progress naturally, and along the lines the boys would like to follow if they were working in any other shop, following out their trains of thought and finding natural incentives.

The boy first learns chipping and filing, but that does not interest him very long, and he is anxious to get on to something that is running. We then put him on a drill press, perhaps, and there are problems of mensuration there, depths and gauges, etc., in which he uses micrometers, depth gauges, etc., and so the work goes on during the three years of the apprenticeship course. He is then graduated into what is known as the Engineering Department Squadron.

The work in the Engineering Department Squadron consists of a course which consumes three years more. The boys are supposed to be firstclass mechanics when graduated from the apprenticeship course, but have not the experience which they can get by working with special machinery. They can run a lathe, milling machine, drill press, or a bolt-cutting machine, but they have had nothing to do with the special machines, and in the three years' course in the Engineering Department they cover the entire shop. The operation of some of our big machines requires a great deal of mechanical skill, and I will say, in conclusion, that the courses in the school are correlated with the work in the shop, and as the boy naturally wonders how to change the gears which control the lathe in cutting operations, he learns it mathematically in the school room, and then he is taken down to the machine, learns about it practically in the shop.

Mr. Davey: Is this work carried out entirely from the boys' standpoint, or is it also carried out from the standpoint of the experienced mechanics who are coming in at the present time?

Acting Chairman Park: The program covers instruction of any kind—covers, of course, primarily, school work, because that is where we are supposed to need the most method. It covers, too, the teaching of specialists; it covers the teaching of men who may be "up-graded," as we sometimes say in the shop.

As we interpreted your previous question, Mr. Davey, you want to know what methods you would use in teaching a man to run a lathe, would you tell him what to do and let him go through it himself first, or show him how to do it, and then let him go along by himself. Is that your idea, Mr. Davey?

Mr. Davey: My idea was to distinguish between academic work and the practical method of teaching the work in the shop.

Acting Chairman Park: I think the two should be combined.

Mr. Tukey: In machine shop instruction the learner is given instruction on the lathe, the drill press, the milling machine and the various other machines. Filing is also included in his training. The previous speaker has made reference to chipping and filing; this is taught to their apprentices in the first part of the course. Chipping is easy to learn, and may properly become a part of early instruction.

Filing is hand work, and difficult to learn, particularly clo filing, and therefore becomes a part of more advanced instruction.

Probably as between different machines, there is little relative difficulty in learning any of the simple operations on each of these machines, that is, it is probably no more difficult to learn to take a rough cut upon a lathe than it is to learn to do a simple job of boring in the boring mill. Probably successive jobs on each machine similarly parallel one another in order of learning difficulty, and may be laid out from the simplest to the most difficult on each machine. You have involved in all the operations, or any of the jobs connected with these machines, certain trade technical information which the boy must learn.

The previous speaker made the statement that if the problem of ratio was encountered in the classroom, that the boy would be taken to the shop to learn how that problem of ratio applied to shop work; in other words, he has made his shop training dependent upon his classroom instruction. The situation, in the opinion of a number of educational authorities, should be reversed — your classroom instruction is dependent on your shop training. You are training that boy to become a machinist and not a mathematician. Incidental to his becoming a machinist, he can earn his wages if he does not have the mathematical knowledge, but it makes him a better machinist if he has it, and therefore it is dependent upon and incidental to the shop work. As given jobs are encountered on the various machines, in themselves they involve the problems of ratio and proportion, or fractions, or decimal fractions, and perhaps various other portions of the academic work, therefore it seems wise to use the latter method. Make the classroom work, the trade technical knowledge, dependent upon the shop training, and give it at the time it is immediately needed, viz.: when the boy strikes it in the shop on the job. A much closer correlation is obtained, and it is easier for the boy to learn. Peculiarly, in most trades the increasing difficulty on the manipulative side corresponds to the same factor on the technical side.

Does that cover the situation?

Mr. Davey: I want to tie you down further. Suppose you have a man on production, and pay him for every single piece he produces. I am not talking about boys, but experienced mechanics. You have a man on a drill press and pay him for what he does. How do you pay that man?

Mr. Tukey: We have 900 of them. We pay them forty-six to fifty-six cents per hour. In the trade of pipe fitting there is certain technical information to be used in connection with valves, etc., that bears the same relationship to the valve as ratio and proportion does to the gears. That information is given to the men at the time he is placing the valve, at the time he first encounters the need of it on the job. The trade technical or auxiliary information is not given to him in advance of the need in the belief that he may need it at some future time. The entire training is based on jobs and the course is designed so that the auxiliary information is given in connection with the job at the time the job is done. I think your work is being carried on in much the same way, if I gather your statements correctly.

Acting Chairman Park: There is no loss in that method. In leaving the subject I want to recommend to you all that we go as thoroughly as we can into methods that are being used in our corporation schools. If we study our teaching methods as carefully as we do our production methods, I am sure we shall find it possible for us to make some progress along this line.

Just one thing more and that is I am sure the Committee — while I am not authorized to speak officially — I am sure the Committee will be glad to receive suggestions from members of the Association, as to special papers which might be prepared from time to time on the subject of method of instruction. Take for example the subject "How to Teach Mechanical Drawing." There is much to be done on the subject and all kinds of methods are used. The Committee might be able to prepare a digest of the various methods used and show the advantages of each; how to teach mathematics, and how, perhaps, to teach shop operations. I suggest this as a possibility. If there is a call for such information, the Committee will be glad to do what it can to prepare and tabulate the information and place it at the disposal of the members of the Association. We would be glad to receive your suggestions along these lines.

VICE-PRESIDENT KINCAID: The time for closing is at hand. I might supplement what Mr. Park has said in regard to other subjects which might come before the convention, or any subject which may be presented in a new form, calculated to develop the subject further, showing its relationship maybe, to other subjects, — one gentleman came to me today and suggested a subject for us to take up, and I asked him to write it out and send it to the Executive Committee. I am sure the Executive Committee will be glad to receive other suggestions that may come in, as to subjects to be considered. If too many come in, some may be disappointed as we must choose within certain limits. Often suggestions can be correlated, and a number of ideas presented in one report, but I know that the Executive Committee will be glad to hear from any of you when you return home as to subjects which might be helpful to consider at our next convention. If a subject of sufficient general interest, and not simply of interest to one or two members alone, I am sure the subject will receive careful consideration from the Executive Committee.

The meeting will now stand adjourned until 7:30 o'clock.

REPORT OF COMMITTEE ON METHODS OF INSTRUCTION

INTRODUCTION

Value of Methods of Teaching in Training Men Quickly.

The general awakening to the necessity for the training of employes was without doubt given unmeasurable impetus by the demands of the war. "To develop trained men in a hurry" was the slogan of practically every industry. Such a colossal task was effectively accomplished by systematic courses of intensive instruction never before deemed possible. Old methods of teaching were dug out of the educational "pile" and worked as they were never worked before. The greatest result of all was the rousing effect upon industry which was brought about by the extraordinary conditions.

"Methods" as a Systematizer.

"Everything now is education." Industry is one vast schoolroom, where employe graduates become the skilled artisans, or the executives of tomorrow. But in all this great undertaking, in this gigantic stride of progress the force of "Methods" crops out unawares. Methods are being developed and fostered so as to secure the most advantageous results. The early chaos of industrial education is rapidly disappearing under the orderly procedure developed through "Methods of Instruction."

The Aims of this Report.

Dr. Rowe has suggested as a starting-point for the activities of our Committee an analysis of "Courses of reading and study in the technique of methods of instruction with suggestions showing their special application to different types of Corporation Schools." With this in view, we have approached this field of study from the standpoint of the Corporation School in its relation to educational methods, rather than from the converse relation of the educational methods to the Corporation School. We have gone a step further, and applied to other committees whose work we believed would materially assist in the fulfilment of the scope and aims of our committee.

Field for Greater Study.

The results have been encouraging to a greater degree than in the past, and it is hoped that our present report will, if anything, be viewed in the light of the importance of its subject, and lead to further investigation, rather than from the limited discussion herein possible.

The Two Types of Instructors.

Before we proceed further, let us consider the two major classes of instruction. The first is instruction carried on by corporation employes, untrained in methods of teaching, and selected merely because of their intimate knowledge of the work; the other is instruction carried on by trained instructors. We shall see that there is a great difference between the instructor who teaches the employe only how to do his job and the teacher who also shows the student the why and wherefore of his job. In other words, does the teacher develop a "parrot" bred employe or does he develop initiative and originality in his student above all else. This question naturally leads us back to the requirements essential in educating instructors in the art of teaching. It cannot be too often repeated that upon the teacher rests the major part of the burden of the success of the school. A teacher is often described as some one who imparts knowledge, inferring that the teacher must have the knowledge, a part of which he gives to someone else. Knowledge of a skilled trade implies not only information regarding the performance of that trade but the actual ability to perform. But the teacher having all this must be able to impart that knowledge to the pupil, so that it becomes the latter's own.

Three Distinctive Types of Corporation Schools.

Corporation schools divide themselves into three sections:

(1.) Courses to prepare the workers for a specific job in the plant.

(2.) Apprenticeship courses designed not only to teach the technicalities of a specific trade but to develop initiative, resourcefulness and ingenuity in the worker.

(3.) General educational courses designed to give the employes an opportunity for general educational broadening, perhaps something that they have been denied in their school days.

The Sources of Teachers for General Educational Work.

For Section 3 the problem of the selection of a teacher is not a difficult one. Enough college trained or normal school graduates with teaching experience can usually be secured either from among employes of the organization or from outside sources. The teacher, however, must be one who can arouse interest above all, and maintain that interest throughout the course. Students in a corporation school, in general, have had their educational instincts somewhat dulled by the regular routine of their daily work, and in such condition are not easily aroused into a receptive mood. While the employe's superficial intentions may be good, the desire for education is not lasting. Consequently, the teacher must apply methods of instruction more concretely, more directly and intensively to gain the desired end.

Technical or Trade Position Teachers.

For the other two types the problem is far different. The teacher of a technical or trade position must have practical information, skill and a large background of practical experience. Industry has been awakened to the need of teaching her teachers, and as a result there has been an advance toward the institution of training courses for the teaching staff.

Inefficiency Resultant from Lack of Knowledge of Methods of Teaching.

The skilled shop workers cannot without knowledge of the teaching methods utilize to the full extent the knowledge they possess. It is inefficiency at its worst to have a teacher use half his available material and allow the other half to lie dormant because the teacher has not been given the tools to use it.

Federal and State Provisions for the Training of Teachers of Vocational Subjects.

There are now State and Federal provisions for the training of teachers of vocational subjects. The Federal Board of Vocational Education outlines the purpose of the teacher training course as follows:

"It is believed that at present the best method of securing trade teachers is by training skilled workmen in extension classes, it being understood that such classes may include evening classes, short courses at dull seasons, summer schools, and possibly other provisions for relatively short periods of attendance and little interruption to the student's daily wage-earning occupation.

"As to purpose: Given a skilled mechanic for 120 hours, what shall be given him, and how, in order to prepare him to become an effective trade teacher? Obviously, not a knowledge of his trade, but equally obviously a training in the '*mechanics of teaching,' of school methods,* or organization, and a point of view."

This includes teaching him—

(a) How to analyze his knowledge of his trade and the *process and methods* therein contained.

(b) How to arrange the elements in an effective teaching order.

Statistical Data as to the Desirability of Training Teachers.

Employers recognize the fact that their teachers should be trained in the methods of teaching, but are themselves not familiar with the opportunities open for training their teachers in the methods of imparting knowledge. In compiling this report, information was obtained from concerns known to be interested in corporation schools; twenty-one of these represent industries, eight represent educational institutions. Of the twenty-nine, twenty-two considered it highly desirable to give special training to their teachers, four expressed belief that training of teachers was unnecessary, three (all representing educational institutions) were non-committal.

Of the twenty-one representing industries, seventeen believed that the teacher of shop practices should himself receive definite instruction. Of the four not believing this necessary, three had trained technical men, all college graduates, as teachers. Only one believed it possible for the expert workmen to teach without the assistance of special training.

Relative Importance of Different Methods.

Recently in a discussion on the methods of instruction to be used in corporation schools, it is surprising to note the divers opinions put forth. One of our foremost educators believes that of all methods the inspection trips method is the most successful. The laboratory method is next in importance, as the corporation school has a decided advantage over other schools, as it usually has at its disposal a very large amount of splendid equipment not available in other schools, and so has the advantage of a laboratory method under the most favorable conditions.

"Teaching is Not Telling."

The representative of a very large electrical manufacturing concern says that the keynote in all these methods of instruction is the problem or project idea. A good practical problem not only teaches the scientific principle involved as a matter of knowledge, but develops capacity to apply this principle with emphasis on the result instead of the method. This recalls the fact that teaching is not telling. Teaching demands that the intellectual activities of the pupil be stimulated so as to produce a reaction either of thought or performance. Education is not information. The efficient use of knowledge is power. Stimulation of the student's mind to acquire power will make him seek after knowledge.

If we summarize the aims of most of our corporation schools, we will probably find that they include the following five elements:

1. The transmission of information.
2. The attaining of accuracy and speed.
3. The strengthening of intelligence.
4. The encouragement of resourcefulness.
5. The development of creative genius.

To reach these ends there are certain well-defined steps which must characterize the teaching process, if the work is to be done effectively. Whatever the means used, the underlying principles will vary but little and a brief outline of these fundamental principles will be of advantage in checking up the operation of the particular method employed.

There can be little accomplished in the transmission of information or the attainment of accuracy or speed without ***interest*** on the student's part, and the cultivation of his ***memory*** will also be essential; intelligent work involves a clear ***comprehension*** of the facts and principles related to the task; resourcefulness demands the habit of *observation,* the strengthening of ***imagination,*** ability to *analyze* and the establishing of good *judgment;* creative genius must be accompanied by the power of *reasoning* and the ability to lay out and develop ***designs***. With all of these the forming of desirable ***habits*** is essential. The outlining of these will assist us in planning our teaching work to accomplish most fully the results desired.

Interest.

1. Securing Attention.
    (a) Involuntary attention—necessary when the student lacks natural interest in the work.
    (b) Voluntary attention—found when the student voluntarily interests himself in his studies.
    (c) Where the second is lacking the first must be evoked before anything can be accomplished.
    (d) The second is more desirable and the teacher should aim to cultivate it.
2. Physical Elements in Attention.
    (a) Fatigue a hindrance.
    (b) Comfortable quarters will help.
    (c) Eliminate unnecessary distractions.
    (d) Proper ventilation and light.
3. Curiosity—Creating a Mental Appetite.
    (a) Aim to show new possibilities in old things.
    (b) Open up new fields for study.
    (c) Widen the student's horizon.
4. Find the "Point of Contact:"
    (a) Discover the students' interests and relate new matter to them.
    (b) Build on what he now has.
5. Give student a chance to do things.
    (a) Doing is more interesting than listening or reading.
6. Create a Sense of Value.
    (a) Help him to see the value of common things and those naturally unattractive.
7. Give variety—Change methods to avoid too much monotony.
8. Question—Encourage self-discovery by showing the student how much he can find out for himself.
9. Visualize—Make real, illustrate.
10. Elaborate—Make clear, use striking illustrations.
11. Keep things moving—Avoid pokiness, avoid delay.

12. Get somewhere—Let the work lead to definite results.
13. Enthusiasm—Let the teacher put energy into his work, not fuss but force.
14. Deepest impressions are made when interest is good. Take advantage of attention.
15. See that involuntary attention gradually changes to voluntary. The student must eventually be made self-dependent

Comprehension.

1. The need of clear ideas. Future value of ideas depends upon their accuracy.
2. Information should be clearly stated.
3. Use language within the student's range.
4. Question to determine if the student has the right idea.
5. Illustrate—word pictures, blackboard, charts, models, pictures.
6. Apply principles—show their extent in various problems.
7. Teach the student how to study when alone.
8. Check results—do not let problems be passed when the results show lack of clear comprehension.

Memory—How Cultivated.

1. Natural limitations—some more retentive than others. Some rapid; others slow.
2. Health.
   - (a) Brain fatigue lessens retentive power and ability to recall.
   - (b) General health affects action of memory.
   - (c) Strong vitality gives maximum ability.
3. Deep impressions more lasting. "Brain paths" more easily retracted when distinct.
4. Association.
   - (a) New information must be in terms of what is already understood.
   - (b) Show relation of new to old by building on to what the student has.
   - (c) Relation of figures to facts to help fix them.
   - (d) Associated words more easily remembered than individual words.

5. Approach through several faculties.
    - (a) Presenting information by eye, ear and touch or smell. One helps the other.
    - (b) Some students can remember better the things received by certain senses. Therefore relate the senses in giving information.
6. Comprehension and memory.
    - (a) Things understood are best remembered.
    - (b) Facts thought out are remembered longer than facts given complete.
    - (c) Let reasoning help memory, as in remembering the number of cubic inches in cubic foot. Things known and forgotten may easily be brought back.
7. Learning "by heart."
    - (a) Groups of words or figures may be thus memorized.
    - (b) Useful for remembering tables, abstract terms, formulas, definitions, phrases.
    - (c) Jingles and rhymes sometimes cover facts.
8. Repetition.
    - (a) Frequent and extended.
    - (b) Renewed at intervals.
    - (c) By problems or illustration of various sorts.
    - (d) By use in different ways. Variety helps.

Observation.

1. Value of accurate observation. Experience helps improve it.
2. Noting cause and effect. Trying to discover causes. Noting methods of operation. Tracing the connection in the movements of machines, etc.
3. Experiment helps observation.
    - (a) Use of apparatus.
    - (b) Testing equipment.
    - (c) Studying new machines.
    - (d) Investigating adopted standards. Why and how.
4. Stimulating observation.
    - (a) Suggesting problems for observation.
    - (b) Securing reports after observation.
    - (c) Correcting results of observation.

5. Observation helps self-education.
    - (a) Encourages initiative and original study.
    - (b) Involves analysis.

Imagination.

1. Importance in practical work.
    - (a) Helps the student to see possibilities.
    - (b) Enables thoroughness in work, since it brings to the mind all possible details.
    - (c) Sees the limitation of any process.
    - (d) Notes the next step in a progressive movement or relation.
    - (e) Valuable in design.
2. May be cultivated.
    - (a) Some students have more imagination than others.
    - (b) Process of visualizing helps it.
    - (c) Problem work brings it into play.
    - (d) Illustration should to some extent give way to word picturing.
    - (e) Verbal description by students gives exercise to imagination or the receiving of mental "images."
3. Imagination the basis for judgment.
    - (a) The student must visualize the subject and see its possibilities before rendering good judgment.

Analysis.

1. Ability to divide a subject into its parts.
    - (a) Determining the steps in problems.
    - (b) Outlining subjects for discussion.
    - (c) Classifying data or information.
2. Determining causes or effects.
    - (a) Studying construction, operation or movements systematically.
    - (b) Investigating trouble to find its cause and cure.
3. Finding conclusions or noting laws.
    - (a) Investigations should lead to definite conclusions.
    - (b) Analysis should have practical application.

Judgment.

1. Based on analyzed information.
    - (a) Information should be complete and accurate.
    - (b) Danger of "snap judgment."
2. Cultivated by practice.
    - (a) Optional methods analyzed and considered.
    - (b) Good and bad practices discussed.
    - (c) Studies assigned calling for reports and recommendations.
3. Necessity for reflection.
    - (a) The time element in judgment.
    - (b) Thoroughness encouraged.
4. Danger of prejudice.
    - (a) Open-mindedness needed.
    - (b) Personal gain sometimes an obstacle.
5. Need of standards.
    - (a) Right bases for judgment.
    - (b) Recognition of the limits established by practical operation.
    - (c) Recognition of standards.
    - (d) Common sense in judgment.
6. Self-confidence aided by good judgment.
    - (a) Ability to decide questions helps self-reliance.
7. Danger of egotism.
    - (a) Self-confidence should not be allowed to encourage self-sufficiency.
8. Intuitive judgment.
    - (a) Quick judgment may become accurate if careful judgment has been encouraged.
    - (b) Occasions often call for quick thinking. The ability to meet emergencies should be encouraged.
9. Relation of memory to judgment.
    - (a) Judgment weakened by uncertain recollection.
    - (b) Memory should not be substituted for judgment.

Reasoning.

1. Inductive—from individual cases to the establishing of general rules.
2. Deductive—from general rules to specific cases.

3. Both should be combined.
    - (a) Reason from known cases to common law.
    - (b) Then apply the law to other cases which broaden its application.
    - (c) Teachers are too apt to use the deductive method alone and rob the student of the value of the inductive process.
4. Analysis in reasoning.
    - (a) Outlining the steps to be traversed.
    - (b) Arranging them in natural order.
    - (c) Seeing the proper progress from the material in hand to the result desired.
5. Judgment in reasoning.
    - (a) Good sense in establishing the various steps taken.
    - (b) Sifting out the material.
    - (c) Arriving at practical conclusions.

Design.

(Either mechanical or in the laying out of plans for organization or procedure.)

1. Gathering available data.
2. Clear understanding of the purpose of the design.
3. Analysis of conditions.
4. Reasoning through details of the design.
5. Weighing the value of different possibilities.
6. Definite and clear conclusion.
7. Testing conclusions, either by assumption or by practice.
8. Value of imagination in seeing possible ways and probable results.

Habit.

1. "Brain paths" or the mental record of action.
2. Nutrition and brain action. Health an aid to habit formation.
3. Importance of repeated action. Brain paths must be deepened.
4. Action more important than purpose in habit forming.
5. Allowing no exception to the rules of conduct necessary for habit, keeping the paths clean-cut.
6. Choosing the habits desired.
7. Exercise of will in habit forming.

8. Value of wise habits in relieving consciousness of the burden of directing conduct.
9. Need of proper motives in habit forming.

In working out a practical educational system in a corporation, the officials must not adopt methods of instruction merely because of the fact that they proved successful elsewhere. It must not be forgotten that conditions vary at different places. The subjects taught are different, the student employes are of a higher or lower grade, and other differences occur which must be taken into consideration before finally deciding the advisability of any particular method. We must admit that the method chosen is not always the best means of imparting knowledge to a given class of students, but is the only possible one under existing circumstances. For example, while we are all agreed that the correspondence method is not among the best methods of teaching, because of the lack of the personal influence of the teacher, still it is the only means by which student employes scattered over a wide territory could effectively and economically be taught. This is especially true in the case of railroad and telegraph and telephone companies where their activities are widespread, and the development of local corporation schools could only be maintained at a prohibitive expense. Judging from the increasing popularity of this latter method among the railroad and telegraphic industries of late, it may not be out of place to briefly detail, or rather, discuss the correspondence method and its application.

The Correspondence Method.

The correspondence method has some peculiar advantages and under some conditions is remarkably successful. It is thoroughly individualistic and tends to develop independence and self-reliance to a marked degree. It goes without saying that the student himself is the controlling factor in the success or lack of success attained in developing the last two characteristics. The student who completes a good course of instruction by correspondence has not only gained valuable knowledge, but he has demonstrated the possession of an invaluable quality of perseverance to a successful end. The chances are strongly in favor of such a student succeeding in later positions because of his inherent or developed stick-to-itiveness.

The Advantages of the Correspondence Method.

Each student of a correspondence course is in a class room by himself. He studies when and where most convenient for him. He progresses as rapidly as his own efforts and ability permit, without being either hampered by slow progress on the part of others or discouraged because he cannot keep up with others. He may study in the privacy of his own home, thus avoiding the necessity of "going to school" as well as the embarrassment of appearing as a student in a class, some of the members of which may be his own business inferiors. This point applies particularly to foremen or other supervisory employes who may need instruction along their several lines but who are averse to attending classes.

Text Books in a Correspondence Course.

The highest degree of success in teaching any subject by correspondence can be attained only with specially prepared text books. The books must be (a) practical; (b) comprehensible; (c) complete. Students of this text are not favored with the presence of a teacher to help them over difficult places, nor are they in a position to use the text only for reference. The ideal text for correspondence study would, therefore, have no places too difficult for the poorest student to master alone—no intellectual steps too long for him to take without help. This ideal can be approached only by a logical progressive arrangement of ideas, by the use of short simple words and sentences, by comparison of new ideas with things that are well understood, and last but not least in importance, by plenty of good illustrations.

Students continue correspondence work longer and accomplish more if the lessons are not too long. The average student likes to finish a lesson frequently and have it graded. Each lesson should be followed by a series of questions that will afford a test of accomplishment, and on the answers to these questions grades can be given.

Obstacles to be Overcome.

One of the greatest obstacles in the way of establishing correspondence teaching for the employes of a corporation is, therefore, the question of text books.

Difficulties in the Preparation of Texts.

They can be prepared, of course, but the process is long and expensive. Where the corporation is a large one and its educational work is extensive, it is quite possible for the firm to prepare its own text books, as they can then be made to contain only pertinent material. Ordinarily, however, there are neither the men nor money available in a corporation school to undertake such a big task. It is therefore necessary to depend upon text books obtained from reputable publishers.

Four Arrangements of Correspondence Courses.

This leaves four arrangements open in the conduct of a correspondence course:

(1.) Company lessons with company text books.
(2.) Company lessons—outside text books.
(3.) Outside lessons—company text books.
(4.) Outside lessons—outside text books.

The word "outside" refers to work of some independent correspondence school which conducts courses of instruction and is not connected with any of the industrial corporations in which these courses are given. As yet there is no data available as to the degree of success attained with any of the above combinations. The third arrangement indicated above seems to be gaining favor especially among the large telephone, telegraph and railroad companies.

Some of the latter companies provide study rooms and designate qualified assistants to supervise the educational work. From the supervisor the students can obtain special help and he keeps in touch with their progress. In some cases these companies make the burden on their employes lighter by financing their work and collecting part of the cost of each course from the employe in easy installments.

Practical Applications of the Correspondence Method of Teaching.

It would be impossible to go into great detail as to the use of the correspondence methods, but it is sufficient to state that it has found its greatest advantage, as mentioned before, among those industries whose activities are scattered over a large territory. The railroads have accepted it in their educational work in conjunction with their training and inspection cars. Each car is provided with sectional apparatus used in locomotive and train service. Some of this apparatus is connected with operative brakes for a fifty-car train. Eight such cars are in service, each under the supervision of an expert railroad man employed by the schools and selected because of his ability to teach. These cars are moved on a system, stopping for several days, if need be, at each station where a number of men can reach them.

Adoption of the Correspondence Method by a Large Telegraph Company.

One of the largest telegraph and cable companies in the country has started an ambitious program, developing a series of three courses, conducted in conjunction with one of the leading correspondence schools. The courses have for their object "enabling employes to become familiar with the several branches of the telegraph business." The specialized nature of the telegraph business made it necessary that such courses directly relating to telegraphy should be arranged and partly written by company experts. The conduct of the courses has been intrusted to a correspondence school.

Three courses of study have been planned, viz.:

(1.) Testing, Regulating and Inside Plant.

(2.) Commercial; and

(3.) Outside Plant.

As the courses offered are more complete in scope than is usual in work of this kind, it will be of interest to outline the studies included.

TESTING, REGULATING, AND INSIDE PLANT COURSE

GROUP A

(1a) Practical Mathematics.

(2a) Practical Physics.

(3a) Trigonometry (Elements).

(4a) Elements of Electricity and Magnetism.

(5a) Mechanism.

(6a) Direct Current Dynamos.

(7a) Management of Direct Current Dynamos Electrical Machinery.

(8a) Alternating Current Machinery.

(9a) Duplex and Quadruplex Telegraphy.

(10a) Telegraph Repeaters.

(11a) Telegraph Switchboards.

(12a) Automatic and Printing Telegraph Systems.

(13a) Telephony.

(14a) Telephony (Simultaneous Telegraphy and Telephony, and Telephone Train Dispatching).

GROUP B

(1b) Mechanical Drawing.

(2b) Machine, Circuit, Office Layout, and Construction Drawing.

(3b) Algebra.

(4b) Elements of Telegraphy.

(5b) Storage Batteries.

(6b) Direct Current Motors.

(7b) Telegraph Power Plants.

(8b) District Telegraph and Time Service.

(9b) Underwriters' Requirements (Indoor Wiring).

(10b) Wire and Cable Testing.

(11b) Elements of Outside Plant Construction.

(12b) Submarine Telegraphy.

(13b) Mechanical Conveyors and Pneumatic Tubes.

Outside Plant Course

GROUP A

- (1a) Practical Mathematics.
- (2a) Practical Physics.
- (3a) Trigonometry.
- (4a) Elements of Electricity and Magnetism.
- (5a) Wire and Cable Testing.
- (6a) Statics.
- (7a) Strength of Materials.
- (8a) Outside Plant Construction and Maintenance Parts.

GROUP B

- (1b) Mechanical Drawing.
- (2b) Machine, Circuit, Office Layout, and Construction Drawing.
- (3b) Algebra.
- (4b) Elements of Telegraphy.
- (5b) Mechanism.
- (6b) Underwriters' Requirements (Inside Wiring).
- (7b) Time Service.
- (8b) Mechanical Conveyors and Pneumatic Tubes.

Commercial Course

GROUP A

- (1a) Questions on Telegraph Book of Rules and Tariff.
- (2a) Theory of Accounts.
- (3a) Telegraph Office Bookkeeping Practice.
- (4a) Law of Contract.
- (5a) Law of Agency.
- (6a) Law of Banks and Banking.
- (7a) Law of Bills, Notes, and Checks.
- (8a) System: Salesmanship.

GROUP B

- (1b) Commercial Arithmetic (Elementary).
- (2b) Written English.
- (3b) Commercial Correspondence.
- (4b) Locational Geography.
- (5b) Elementary Economic Geography.
- (6b) Time Service.
- (7b) Elements of Telegraphy.

How the Course is Conducted.

The work is conducted as follows: Upon enrolling the student is sent the first three or four instruction books, with instructions for their use, inquiry blanks, and such information as he may need to start him right. He is also given a Study Record Card for each book, which he is asked to fill out and return with his examination, both as an accurate record of the actual time that he is studying, and as a guide to his instructor in determining the ability of the student to absorb knowledge. Each instruction book contains in the back a series of questions, which the student is required to answer from his own knowledge, as his examination on that particular subject. Each time that he submits a satisfactory examination, he is sent the next instruction book in his course, so that he always has on hand two or three instruction books ahead of the one on which he is working, and is not liable to delay or loss of time through the time taken to get the book to him, or the possible miscarriage of the mails. The student is supplied with up-to-date instruction books as fast as he is ready for them; but he is never sent a complete set of instruction books upon enrollment, whether or not he pays cash down. He is advised to take up the subjects in the order in which they are listed, as by this arrangement he is certain to get first the elementary subjects which are prerequisite to more advanced work.

Attractive Terms of Payment.

So as to obviate any difficulties on the part of employes who are unable to meet the terms of payment, a small fund has been made available, out of which there is loaned without interest such sums as the Committee in Charge of the Fund deem necessary. The money must be repaid at the minimum rate of two dollars per month.

The Special Value of the Correspondence Course in Industries with Scattered Plants.

It is believed that the somewhat lengthy description of the correspondence method will prove of interest to those corporations which have been contemplating its adoption, but were doubtful of its effectiveness. The results have led us to the conclusion that while there are several drawbacks which cannot be overcome, the correspondence method, properly conducted, may satisfactorily meet the educational requirements of those industries whose far spread activities make other methods impracticable and uneconomical.

The Inspection Trips Method.

The obvious importance of the *Inspection Trips Method* has been quickly recognized by the industrial world. Very few corporations of any importance are without this means of imparting knowledge to their employes. There is no doubt about the necessity of seeing the "wheels go round," in order to form an accurate conception of the machine. Studying about a machine or a process is essential, but no amount of such study will ever give the feeling of familiarity, the practical working knowledge that can be acquired on a well-planned and well-conducted inspection trip. Such trips constitute, therefore, not only a method of teaching in themselves, but form a necessary adjunct of any method of teaching.

Details of the Inspection Trip.

Nothing broadens a student employe more rapidly than to visit the plant and watch the details of the process about which he has been studying. But unless he sees the theory that he has learned exemplified, it will be of little value to him in its practical application. It is unwise, therefore, to spend time and money for an inspection trip until thorough preparation has been made for it. Each student should be informed in advance of the trip concerning the essential features of the plant to be visited or the process to be surveyed. He should know about what to look for and where and why. In fact, the more thorough his advance preparation the more he will profit by the trip. During the trip he should make notes and possibly sketches to aid his memory so that later he can write a complete report of what he saw, of the functions performed, the methods, processes, etc., together with his criticisms and suggestions. In fact, if his report is a complete survey, it will be most profitable to the writer, to his associates, and possibly to the managers of the plant surveyed.

The student who is studying a well-planned course on the theory and practice of his daily work is in the best possible position to improve by his study. But if his work is something in which the practice is not essentially the same in all plants, even he should have an opportunity to see how others do the work. If he is studying about machinery or methods that do not come under his observation regularly, an occasional inspection trip is a requisite part of his course.

It must not be forgotten that an inspection trip may include trips to other departments in the same plant, or in other plants of the same company. In any event, what has been said in the preceding paragraph is applicable in the latter cases also.

The Supervised Study Method.

The ***supervised study method*** has been used by our Committee to designate the plan whereby courses of study are outlined or approved by the management and are followed by the employes under the general direction of a member of the organization staff. This supervisor should, of course, be selected in preference to others because his other duties may be least pressing.

Success Dependent Upon Supervision Not the Supervisor.

The success of this method depends on the supervision, but not necessarily on the supervisor.. If the management is keenly interested in the plan and follows its working out closely, and if the supervisor has been happily chosen, the educational standards among the employes can be very considerably raised.

The Essential Factor—A Sympathetic Management.

The first essential is, therefore, sympathetic management. The officers of the company must be interested enough to follow the educational work in a general way and to encourage it at every favorable opportunity. One of them must assume general charge of the work and be readily accessible to the supervisor for consultation and advice.

Next—the Choice of the Supervisor.

Next in importance is the choice of .a supervisor or director of the work. The proper person may be already a useful member of the organization, and if so, his duties should be so arranged that at least a part of his time can be given to educational work. He should be chosen because of his love for such work; it should never be assigned to anyone to whom it is irksome. It should be clearly understood also that his first duty is educational supervision. He should be available for consultation, either at any time or at regular set times so that employes may know just when they may get help. Otherwise, interest in study will lag.

The Planning of the Courses.

Then comes the planning of the courses, and this seems to be the most difficult part of the entire task. Employes sometimes do not willingly swallow the doses prepared for them by others. Most students prefer to have some choice in the selection of their studies. The management that prepares courses of study solely with its own selfish interests in view may stir up some enthusiasm for them while the novelty lasts, but experience shows that unless the employe is to be benefited permanently, beyond his ability to serve in the one capacity for the one company, his interest is likely to wane.

The Wider Field of Choice of Subjects Results in Success.

If a number of courses can be planned, so that each employe can select for himself something that he thinks may be permanently or more widely useful to him, he is more likely to take up a course and to pursue it. The wider the field from which employes can choose their studies under this supervised method, the greater will be its success. Its greatest success has probably come when used in connection with the correspondence method, where the supervisor merely guides the work, gives special help now and then when it is needed, watches the progress of each student, and commends, encourages or admonishes, according to the need.

The Amount of Help to be Given the Student.

How much help should be given a student is a debatable question. Whether he should be allowed to work out all his problems alone after their essentials have been made known to him, or whether an instructor should stay by him while he is working and guide his thoughts or acts is a difficult problem. It is solved by striking a happy medium by means of which is developed the mental strength that leads to success.

The wise teacher discerns when help is needed and how much is needed. He gives a hint or simply asks a suggestive question, when that it enough to put the student's train of thought on the main track again, or he gives a thorough explanation when the derailment of thought has been complete. As a matter of fact, all true teaching is done by the supervised study method.

The Educational Courses in a Large Department Store.

The subject of retail salesmanship affords an excellent example of the growing demand for education. One of the largest department stores in the United States has undertaken an elaborate educational system. As this firm is typical of the onward movement toward systematic training of employes, it is believed that these paragraphs will present to the members of The National Association of Corporation Schools a concrete example of the educational methods applied to this important branch of industry.

A Course in Retail Selling in a Large University.

The inauguration of a course in Retail Salesmanship in one of our largest universities brings out a new era in the progress of corporation school development, where methods of instruction again come to the fore in their relation to the continuation of this work. The above mentioned department store has entered deeply into this subject and its representative is connected with the establishment of the university course.

The Methods Used in the Conduct of Their Courses.

An investigation of the application of Methods of Teaching to the development of the educational training of the selling and buying forces of this department store disclosed the fact that practically all the methods outlined in our Committee's Report for 1917 are in constant use. More specifically the methods found essential in the proper conduct of their work appear to be the class room and recitation method, the inspection trips method, the demonstration laboratory and project methods, and the library method. Deviations from the exact boundaries are of necessity always present, as, for example, the demonstration method is often supplemented by the library, the objective and the project methods.

How the Work is Carried On.

A number of student sales clerks are taken into the store and an actual sale is demonstrated to them. When sufficient proficiency gained through observation is attained by the student, she is permitted to sell (project method) under supervision until the requisite experience is acquired. The courses of instruction are concurrent with productive work in the store and the sales clerk's training is by no means complete at the termination of what may be termed the prescribed course. A follow-up system, which may correctly be designated as a method of instruction, is maintained. A student assigned to the hardware department, for example, is regularly called up for examination on the manual in the products for sale in this department.

Here it may not be amiss to mention the fact that manuals have been prepared for all the courses conducted by the Department of Training.

The Company Library.

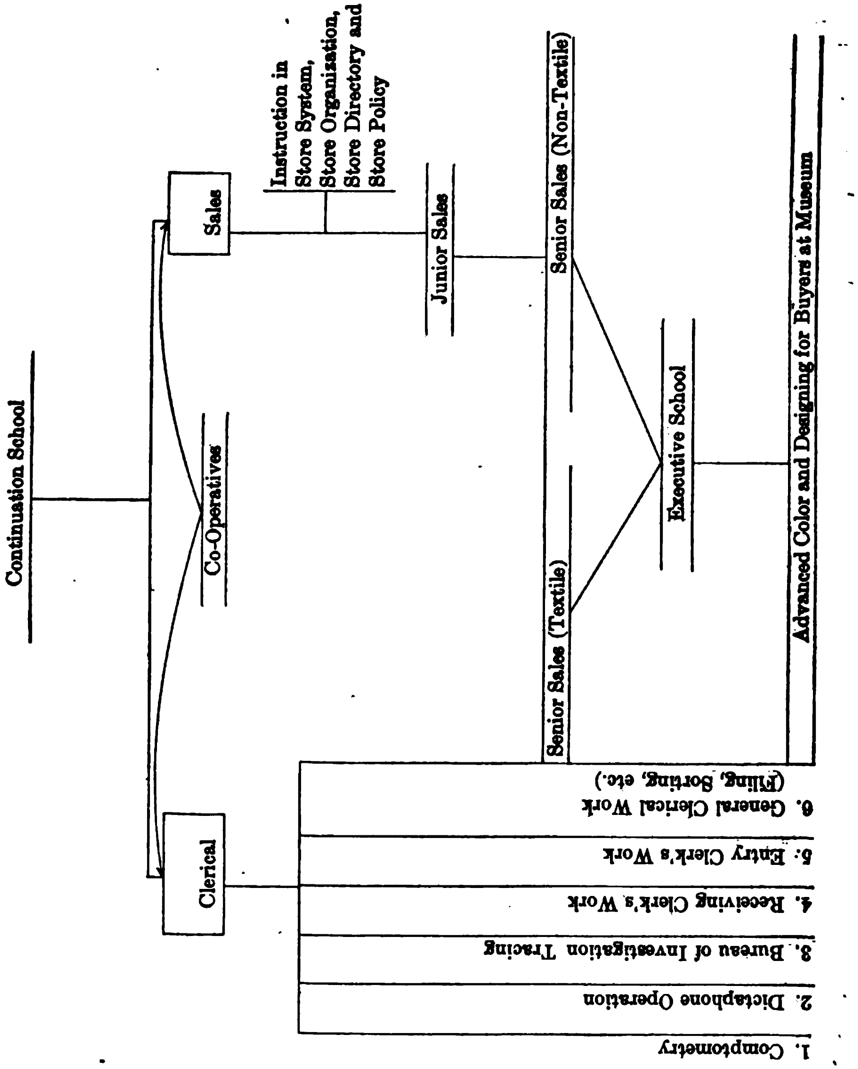
The sales clerks soon familiarize themselves with their text and may refer to them in case of need. A substantial library is maintained with a competent librarian. The selling and clerical forces are instructed in the proper use of the library and are urged to take advantage of this means of acquiring knowledge.

A "force" diagram systematically arranged gives a concise idea as to courses of instruction open to applicants.

Applicants are not required to enter at the beginning of the Continuation School, but may begin anywhere where their ability and experience entitles them to. However, employes are always examined as to their fitness to occupy the positions filled by them.

The Applicability of the Term "Continuation School."

Inasmuch as the training offered by this firm coordinates with and finally succeeds the regular public school education, the appropriateness of the term "Continuation School" is evident. The Company school merely gives a fundamental knowledge of arithmetic, spelling, reading, local geography and hygiene. The study and recitation method supplemented by the lecture method is used in the presentation of these subjects, with special emphasis being placed on their applicability to business. To quote from the words of this Company's representative, the "Continuation School acts as a feeder to the various branches of training." Graduates of the Continuation School or others who have an equivalent education are allowed to decide for themselves whether they are to become sales clerks or office workers.


Continuation School
Sales
Co-Operatives
Clerical
Instruction in Store System, Store Organization, Store Directory and Store Policy
Junior Sales
Senior Sales (Non-Textile)
Senior Sales (Textile)
Executive School
Advanced Color and Designing for Buyers at Museum
1. Comptometry
2. Dictaphone Operation
3. Bureau of Investigation Tracing
4. Receiving Clerk's Work
5. Entry Clerk's Work
6. General Clerical Work (Filing, Sorting, etc.)

Courses of Training Offered.

"To those who choose retail selling, very carefully planned courses are offered by the junior class in salesmanship, store organization, store system, color, diction, advance arithmetic, display, store directory, personal hygiene, and demonstration sales. At the completion of this course, an opportunity is offered the students to choose either textile selling or non-textile selling. To cover these two divisions of retail selling, we have a Senior Training Class in Textile and a Senior Training Class in Non-Textile. *These courses include trips to mills.* Graduation from these classes is followed by the formation of clubs, organized for the purpose of further study along specialized lines. The graduates have at their disposal a *technical library* and instructors who continually follow up their work on the selling floors."

We need not go into any great details regarding the training for clerical positions or "non-selling" work, except to state that this firm has found it advantageous to use the supervised study and the study and recitation methods in carrying on this phase of the work.

It is believed that by means of quotations from literature compiled by the representative of this firm in connection with their educational work to be incorporated with new university courses, this report will be more effective in bringing out the application of the various methods.

The outline here shown develops the subject of Cotton and is but one of the many courses offered.

COTTON

Introduction

One of the Many Courses Given in Detail.

Reason why cotton is the most important textile fiber:

I. History.
    (a) Origin of Industry.
    (b) Peruvian Cotton.
    (c) Cotton of Ancient India.
II. Cotton Plant.
III. Characteristics of Fiber.
IV. Countries.

- V. Climate.
- VI. Varieties of Cotton.
    - (a) Cause of Variation.
        - 1. Sea Island Cotton.
            - (a) Characteristics.
            - (b) Locality.
            - (c) Use.
        - 2. Egyptian Cotton.
            - (a) Locality.
            - (b) Characteristics.
            - (c) Use.
        - 3. Upland Cotton.
            - (a) Locality.
            - (b) Characteristics.
            - (c) Use.

- VII. Cotton Cultivation.
    - (a) Planting.
    - (b) Picking.
    - (c) Ginning.
        - 1. By-product.
            - (a) Seeds.
                - X Uses.

- VIII. Cotton Manufacture.
    - (a) Picking.
    - (b) Carding.
    - (c) Combing (Best Grades Only).
    - (d) Drawing.
    - (e) Spinning.
        - 1. Filling.
        - 2. Warp.
            - (a) Warping Processes.
    - (f) Weaving.
    - (g) Finishing Processes.
        - 1. Bleaching.
        - 2. Dyeing.
            - (a) Natural Dyes.
            - (b) Animal.
            - (c) Vegetable.

        - (d) Mineral.
        - (e) Artificial Dyeing.
        - (f) Methods of Dyeing.
    - 3. Printing.
    - 4. Dressing.
        - (a) Substances Used.
        - (b) Effect.
    - 5. Finishes.
        - (a) Calendering.
        - (b) Embossing.
        - (c) Singeing.
        - (d) Napping.
        - (e) Mercerizing.
            - X Process.
                - 1. Effects.
                - 2. Mercerized fabrics and articles of merchandise.

IX. A study of thirty-five cotton samples according to the following outline:
- (a) Name.
- (b) Weave.
- (c) Characteristics.
- (d) Width.
- (e) Price.
- (f) Uses.

In addition to all these regular educational activities, ***lectures*** are given from time to time on different subjects, sometimes illustrated by slides and sometimes by moving pictures. A series of lectures covering the entire field of retail salesmanship is offered in the Executive Course, which includes such subjects as:

1. The general policies of the Company.
2. Business arithmetic.
3. Mark-downs and mark-ups and their relations to general policies.
4. Reasons for different profits in different departments.

It is of interest to note that this same department store considers the development of educational work for Retail Salesmanship of sufficient importance as to have its educational representative devote considerable time in bringing into existence the

"Teacher Training School of Retail Selling," before mentioned, at a large Eastern university. Admission into this school is limited to those who have completed a college course or its equivalent in fundamental training. Such assets as personality, business experience and the like will also be determining factors.

The objects of the school are:

1. To train teachers in retail selling for—
   - (a) Public High Schools.
   - (b) Retail Stores.
2. To train employes of the Retail Stores for executive positions.

In connection with this school, in outlining the methods of teaching, the practical point of view is to be kept in a foremost position.

The university's instructors will base their teaching upon practical store conditions, while the students will be required to divide their time between university study and actual work in the store.

One of the courses, of special interest to our Committee, has been designated "Methods of Training." (Logical Arrangement of Data for Training Purposes.)

This course is to train teachers how to choose and present store materials and conditions for the purposes of training sales people.

1. Principles of a survey.
   - (a) Analysis.
   - (b) Classification.

2. Methods of appeal through arrangement of stock.
   - (a) Display of stock.
   - (b) Location of department.

3. Methods of teaching.
   - (a) Applied theory.
     - X. Classes in university in the morning and work in the stores in afternoon, Saturdays and holiday seasons.
   - (b) Organization of class-room work.
   - (c) Preparing programmes.
   - (d) How to use manuals for training.
   - (e) Adjusting the school to departmental activities.

Intensive Instruction for Cooperative Students.

A peculiar need for special intensive methods of instruction arises in the case of the employment of cooperative students. This store seems to have met with considerable success in the use of high school students who spend alternate weeks in school and in the store.

In the high schools, in addition to the regular cultural subjects, there are taught the theoretical elements underlying the study of salesmanship. This is of necessity taught by the study and recitation method, and is supplemented by the laboratory and project methods in the store.

The Line of Demarcation Between General and Retail Salesmanship.

In answer to the question as to whether there is a decided line of demarcation between retail and general salesmanship insofar as methods of instruction are concerned, the natural reply is in the affirmative. The conditions to be met are entirely different. In the case of the retail salesman, the buyer comes to him, while a general salesman or the man who goes out to sell must go to the buyer; consequently, different psychological principles are involved, as "the method of approach" is the all-important factor. What particular methods are to be used in either case is impossible to say, as the same methods may prove to be applicable to both, but the positive line of demarcation cannot be ignored if properly trained salesmen are to be obtained. This department store a few years ago had a system of education entirely different from that now in effect by which new employes were trained in the various departments by more experienced and older employes.

The Educational System of a Large Life Insurance Concern.

As a further example of industrial activities, we find one of the largest life insurance companies in the country has evolved an educational system for its employes which is somewhat different from the usual run of corporation schools. That it has met with complete success may be concluded from the results obtained, which warrant its indefinite continuation.

Courses Offered and How They Are Conducted.

With but few exceptions, this company has found it advantageous to have experienced employes act as instructors to the new employes while on actual work, rather than have them taught in regular class rooms. Classes in English, French and mathematics have been discontinued because of the lack of interest displayed by the students. In the experience of this concern it seems that educational work conducted on employes' time does not prove at all satisfactory. The only actual class room courses now offered are in typewriting and stenography. The instructor in these courses has had practical experience as secretary to one of the executive officials of the company, and was formerly a high school teacher in the same subjects. The officials have found it preferable to employ stenographers who are taught in their own school, to those graduating from the high school or business school. While the latter are usually well informed on the practice of stenography, their lack of experience in business correspondence makes them unsuited to the needs of the company. It is true that high school and business school graduates find their way into the ranks of the office force, but ordinarily they are not entered into stenographic positions until a definite period of training in clerical work has been passed through.

The Instructors Are Practical Men.

A high executive official of this company, who is constantly in touch with the training of the employes, is assured of the fact that all their methods employed have proved entirely satisfactory. All the departmental instructors are simply practical men, and have had no training in the art of teaching. Coaching by the department manager offsets any shortcomings occurring due to the instructor's lack of familiarity with the psychological principles underlying the proper methods of imparting knowledge.

The Methods of Instruction Employed.

Employes are trained in their work by means of the Library, the Laboratory, the Inspection Trips and the Supervised Study Methods. The Inspection Trips are all conducted within the limits of the company's premises and trips are not often attempted to other organizations than those whose business is along similar lines. The reason for this is that a system has been evolved different from that of other companies, which has proven entirely satisfactory; consequently, in order to properly learn the system, inspection trips in other departments are all that are necessary. The Laboratory Method is involved in that the clerks all master their assignments by actually doing work in the company's offices, remaining in training until the requisite proficiency is acquired to enable them to assume their duties on their own initiative. It may easily be seen that the Supervised Study Method is necessarily part of the laboratory work, as the instruction is always done under intensive supervision by the teacher clerks. From the very nature of the insurance business, clerks in most of the departments must familiarize themselves with the company's literature, which in most cases has a direct bearing on the work to be performed. This condition has led to the formation of a company library, containing for the most part company literature and other related writings. The employes whose work involves an intimate knowledge of the company insurance data are also urged to take up current literature on the same subject made available for their use. The library may, therefore, be classed as a purely company institution, made up entirely of insurance literature, the majority of which has been compiled by the company's own people.

Methods of Instruction in their application to the work of apprentice schools presents to us a concrete example of their practical importance. We have entered a little more deeply into this discussion for two reasons: first, because of the rapid development of apprentice schools, and their ever-increasing use among the technical industries, and second, because of the general applicability of the thoughts conveyed. We make no attempt, however, to cover the entire theory of methods in their relation to apprentice schools, but our Committee has endeavored to give a very practical discourse on the subject, which might prove of value to allied industries. The mental faculties aroused in the proper conduct of the apprentice courses are particularly dwelt upon, so as to bring out a more thorough understanding of the requirements of successful methods of instruction. The characteristics developed in the student by the training he receives are of prime importance in shaping his future career.

TEACHING METHODS—APPRENTICE SCHOOLS

The application of the principles of education to the operation of apprentice schools aims at the twofold object of making more thorough the acquiring of information by the student and the development of the student's mind in the process of instruction and study. Whether in the preparing of texts, the wording of problems or in the work of the class session, the use of proper educational methods should increase materially the value of the work undertaken.

The application as here discussed must be by way of illustration only, the wide diversity of apprentice courses making special application impossible at this time without unduly narrowing the scope of the report. It is hoped that the material presented may suggest to teachers ways in which their own work may be made more effective and practical.

In the following discussion it is the purpose to show the manner in which the more important educational principles may be applied to the work of the school for the obtaining of proper interest, for the helping of the student's memory, for the encouragement of thoughtfulness and the developing of his initiative through observation, accuracy and the carrying of responsibility.

These notes are intended merely to give accent to the general readings suggested in the main report, rather than constitute a complete outline of pedagogical methods as applicable to the apprentice school.

Questioning.

The wise use of questions may be applied either to individual instruction, to lecture periods or to class study. These will be considered from the standpoints which follow:

For Information.

When taking up a new subject or when preparing to leave one subject to take up another which is related to the former it is desirable that the student's knowledge be determined, and this can best be done by questioning. As an illustration, if a student or class be about to take up the study of leverage it will assist the teacher in presenting the subject to know the student's knowledge of the balancing of forces, the relative loads which would balance on longer or shorter arms, the relation of the forces and arm lengths, the locating of the fulcrum and his recognition of the leverage principles in various mechanical devices used in the trade represented, and these may be discovered by the use of questions.

Since apprentices usually have had various degrees of schooling before entering industry, review questions will show how much each knows of the subject being taken up and needless repetition can sometimes be spared by this preliminary questioning. In class work it is well to keep in mind the fact that information obtained from the student's statements will, of course, be elaborated upon by the teacher, but the fact that the information came from the class will add to the interest and help fix the facts in the minds of the class.

Developing the Subject.

Much of the detail involved in the development of a subject can be brought out by questioning more effectively than if stated by the teacher. For example, in directing a study of the relative speeds of a series of pulleys connected together, the principle and formulæ involved can be brought out by questions covering the successive steps, such as: with two pulleys belted together, one three times the diameter of the other, how far will the belt travel in one revolution of the larger pulley? What is the circumference of the smaller pulley? How many revolutions will the smaller pulley make while the belt travels the distance found? Compare the relative speeds and the relative diameters. By use of letters for diameters and speeds develop a formula to cover the principle.

Another illustration of this idea is the presentation of the familiar method of extracting square root by practical method. Taking some even square such as 144, draw a square to illustrate the given number or area. What is the largest square in tens which the area contains? Draw square to illustrate this part of the total area. What is the remaining area? What is the approximate length of this area? What, then, is the approximate width of this area? Test for correctness of these figures. From the results obtained the usual process of extracting square root may be shown and its reason is now apparent.

The extent to which subject-matter can be developed by this method will depend upon the time available, but the mental development obtained by such means is well worth the time so spent.

Finding the Cause.

The question method is well adapted to studies which permit of analysis looking toward the discovery of causes or reasons for accepted practice. The reason for tapering the sides and flatting the tops of screw threads; the reason for making milling cutters with inclined blades and of notching their cutting edges; why different shaped teeth are used in cross-cut and rip saws; the why of loops in long pipes which are subject to changes in temperature; the reason for weighting down flasks in the foundry; the necessity for a water jacket on an air compressor cylinder; such questions are capable of answer from the knowledge possessed by the average apprentice. Even extended processes may be studied and the reasons discovered with little direct information being given and the habit of seeking the causes of observed practice may easily be formed.

Applying Known Principles.

Both in individual study and in class work the student is frequently unable to determine the method to use in solving a problem. The teacher may either tell the student directly the process involved or lead him by questions to the application of a process with which he is familiar. To illustrate: A student is required to find the lateral thrust necessary to derail a car wheel having a standard shape of tread and flange and a given load, but he cannot get started at its solution. He has previously studied the force parallelogram, but does not recognize its application here. By a series of questions the teacher may lead him to see the direction in which the flange must move to mount the rail, the load which resists derailment and the horizontal thrust necessary to give the resultant in the required direction. Or again: a student is studying the development of the surfaces of geometrical forms. He knows that every point in the circumference of a circle is equidistant from the center. By proper questions he sees that every point in the circumference of the base of a right cone is equidistant from the apex of the cone, and that by drawing a circle with a radius equal to an element of the cone its surface may be developed on a flat sheet. The information gained by this method is better retained than when given outright, and the mental development is advantageous.

Progressive Study.

The principle just discussed may be extended so as to form the basis for progressive study of subjects in which the new information involved is small and in which reasoning plays an important part. With the law of acceleration understood, for example, the formula for centrifugal force may be developed by suitable questions and the use of a diagram; if the principle of figuring moments of inertia about the gravity axis be clearly understood, one can be led to work out the formula for finding the moment of inertia about an axis other than the gravity axis. So also with the use of models or apparatus can the use of questions carry the student through a study of the principles involved; such as the understanding of the reading of a micrometer, the calculations for setting the index head of a universal miller or the figuring of feeds and cuts on various machines. Many of the formulæ usually given the student for his guidance may be worked up by this method and rules governing practice in the various trades may be so formulated. While it is possible to overdo the question process and the time allowed will not always permit of its complete use, there is undoubtedly room for more general employment of the art of questioning.

Helping Memory.

In the teaching plan of the apprentice school the principles which relate to the cultivating of memory are sometimes lost sight of in the effort to utilize the vast fund of practical application available to the school in the work of the trades. Following are some of the ways in which the school may help develop memory:

Repetition.

It is undoubtedly true that drill in abstract quantities will help fix a principle in the student's mind more quickly than problems in concrete terms. Most minds are unable to assimilate two different things at the same time and the couching of a problem in practical terms will not infrequently help to diminish the impression made upon the mind by the principle involved. For example, if we are illustrating the division of fractions by figuring the time to make a given number of bolts if five-eighths of the total amount is made in three hours and twenty minutes, the principle of division of fractions is obscured by the mind's effort to grasp the time element and the bolts. The illustration of the principle is very proper, but it is well to emphasize the principle in the abstract, and drill it in abstract terms before further applying it to concrete problems. The best plan, then, for helping fix a principle which can be put in abstract form is:

1. Illustrate in concrete terms.
2. Emphasize the principle in abstract form.
3. Drill in abstract problems.
4. Further apply in practical problems.

It is also wise, where possible, to have the principle repeated in problems after intervals spent in other operations, this helping to deepen the impression made upon the mind. Problems involving a variety of operations are useful for this purpose.

Review.

The flexible program of the apprentice school is well adapted to the periodic review. If the class program permits, an oral review, either collective or individual, will be very desirable. This may be done either at stated intervals, such as monthly, bi-monthly or quarterly, or when changing from one subject to another. A short review conducted frequently will be much more effective than an extensive quarterly review.

The plan of reviewing one subject before passing to another or the review of a previous subject when taking up a new one is excellent practice. It often happens that students will be able to get through problems because of the similarity of such problems to others which they have solved, but the principle involved in the calculations may not be clearly understood. The review should, therefore, aim at determining how well the principle or important formulæ are remembered by the student. A review of the nature of heat may well accompany the study of friction and lubrication; the proper use of moments will naturally be essential to calculating centers of gravity; the deflection of beams must needs be understood to comprehend the design of plate springs and a review of the principle of bending moments may well accompany the figuring of complex beam stresses.

Wherever there is an indication of lack of understanding of any principle, it is evident that memory needs the assistance of a review.

Employing Several Faculties.

Since memory is affected by the number of channels through which information is received by the mind, the apprentice school may well arrange its program to bring the information to the student in several ways. Data which is presented in written or printed form is stated verbally by the teacher, and is noted down by the student, will be retained more readily than that which is received by one means only. Schools using the lecture method with blackboard or charts and requiring the students to take notes, have the advantage of appealing through the ear, the eye and the hand. Where this is not the practice, owing to the use of text books or lesson sheets, the teacher may use the oral and written methods to assist students who call for assistance or who give evidence of not understanding the principle involved.

Visualizing.

For the reason just stated it is wise for the teacher to use every reasonable means for illustrating the subjects taught. Even abstract subjects, such as algebra, can be described by the use of sketches; positive and negative quantities being illustrated by areas drawn on either side of a base line; the fact that subtracting a negative quantity is equivalent to adding a positive quantity being shown by rearranging these areas, etc.

The rolling of a circular disc on the table to discover the relation of circumference to diameter will make easier the remembering of the correct ratio; the student who has available a wooden model for illustrating cube root will find in three flat slabs a help in remembering that the square of ten times the first number is to be taken "three times" to give a trial divisor; with a proper model the boy studying the law of levers will see for himself that the lever arm must be measured perpendicularly to the direction of the force, etc.

The impression obtained by the use of models, charts or drawings will be clearer and fuller as well as longer retained.

Association.

As has already been shown, there is an advantage in relating new principles to what the student already knows. Since the mind assimilates new ideas by attaching them to those previously received, it is apparent that illustrations familiar to the student will help most in fixing the new principle. Both in the introducing of the subject and in the problems which follow, the situations chosen should be intelligible to the student, preferably from the standpoint of his trade experience.

Reasoning.

That school which cannot only produce men or women who are well informed, but can develop in them an ability to think their way through difficulties and around obstacles, has best served its purpose. The program of the apprentice school may well provide, then, means for encouraging the student's reasoning ability.

Advancing by Steps.

In discussing the art of questioning we have noted the possibility of the student being led by a series of questions through the successive steps of a progressive study. The student should not, however, be made to lean too heavily upon the questions for guidance, but should be taught to think his way through problems without help.

Geometry and algebra lend themselves to the progressive solution of problems, and the same principles as underlie their operation may be applied to other mathematical work. The usual steps in unguided reasoning through a problem are:

a. Knowing the terms of the answer required.

b. Collecting the data given or obtainable.

c. Determining what temporary material is needed so as to proceed from what we have to what we want.

d. Eliminating terms not in the answer, by substituting their equivalents in terms of the answer.

These steps, while applying most readily to algebraic and geometrical solutions, are applicable to trade problems as well and the student may be shown by them the means of working his way through even long and complex calculations.

To illustrate briefly: A student is required to find the volume of air required for the proper combustion of a certain quantity of coal, the analysis of which is given. The answer must be in cubic feet of air at a given temperature; the material given is coal of specified weight and analysis. Between these two are steps which must involve the transition from coal to air. The student sees that combustion is involved in the relation of air to coal; that certain chemical reactions result in combustion; that a fixed amount of oxygen must be supplied to complete these chemical reactions and that weight of air and volume of air will naturally follow. Such a process of "bridging the gap" between the data in hand and that desired can be made clear to most students for the solving of all rational problems and with this practice should come the habit of seeking the way out of the difficult situation at hand to the conditions desired.

Analysis.

Most essential in the process just mentioned is the ability to analyze the problem and carefully determine its parts. Many students will consider a problem impossible because they cannot at once see the "bridge" necessary to cross the unknown area. A careful listing of the parts of the problem, of the elements into which the problem divides itself will aid in giving a more intelligent start. How many students actually list the steps necessary in the solution of a long problem? Comparatively few. Most of them will "feel out" certain methods and see if they arrive. The careful analysis of problems will yield good results in the forming of habits which will apply alike to the needs of the shop or engineering department.

Discovery Problems.

In connection with the forming of the habit of analyzing the problem material we may well consider the use of discovery problems, or problems in which the student finds his way by investigation. This method relates more particularly to the use of apparatus or machines. With spring balances the student may determine for himself the resolution of forces acting at a given point. A machine shop student may study a certain machine and discover for himself the method of its operation, the use of each part and the relative speeds and feeds which may be produced upon it; an electrical student may test out the resistance in various parts of electric equipment, etc.

It is wise not to use this method too early in the course nor until the interest of the student has been sufficiently aroused to insure thorough work on the project.

Interest.

Since genuine interest on the part of the student is essential to real education, the matter of gaining his attention and holding his interest is one of the problems of the apprentice school. Many apprentices have left the public schools to escape study and their ideas of school work must be changed if their interest is to be secured.

Related Subjects.

In most apprentice schools it is quite essential that there shall be an evident and valuable relation between the studies or the problems and the work of the trade in which the student is concerned, and this ought not to be difficult to arrange. While each apprentice has certain interests outside of his trade and concerning which he would be glad to take up study, most young people must see that their school subjects are going to be of value to them in some fashion later on and the more real the nature of the problem work, the greater is the interest apt to be. This does not necessarily preclude the use of abstract terms and calculations, but it gives emphasis to the suggestion made elsewhere that new principles be introduced in concrete terms, before drilling in the abstract, and that later problems show the application of that principle to actual trade conditions.

Curiosity.

With most young people the element of curiosity plays an important part in the awakening of interest in any subject and this element may be used to advantage in school work. The teacher who can elaborate upon a given subject so as to show its greater scope or who can apply it to accomplish interesting things will help make drudgery attractive.

For example: An instructor wishing to give a class of foundry boys some drill in the multiplication of fractions, held up a wooden pattern and asked the boys to guess the weight of the casting it would make. The answers ranged from fifteen to thirty pounds. "Who is right? Well, let's figure it out and see." The result was an active exercise in arithmetic.

When studies relate to certain materials, interest can be stimulated by questions as to how these are made, what distinguishes them from other materials, what are their limitations or what their relative value. While these questions may not be directly answered, they suggest possibilities which arouse curiosity and give the broader basis for wholesome interest. A boy figuring cutting speeds on a certain machine may find added interest in the fact that certain grades of tool steel permit of higher speeds than others and that certain chemical elements are responsible for this difference. Added information has made his subject more inclusive and widened the range of its possibilities.

Illustration.

Not only does visualizing assist memory and the ability of the student to comprehend the subject being presented, but added interest is given the subject by the use of proper illustration. Blackboards, charts, drawings, diagrams, models, photos, projected pictures, lantern slides or moving pictures can all be made to contribute. A class in shop arithmetic will find greater zest in its calculations if the data must be taken from blue prints; the class studying mechanical drawing will appreciate models; the boy struggling to understand the law of the expansion of steam will find cheer in a blackboard full of sketches.

In illustration work it is wise to avoid such a use of pictures or other material as to scatter interest too widely. The diverging along lines not closely related to the theme before the class may hinder more than help. Care must be exercised that the illustrative material enlarges the subject, not detracts from it. For example: In figuring the bearing areas and bearing pressures on a steam engine, a large and elaborate assembly drawing would probably suggest to the student so many different ideas and questions that work on the problem would be hindered rather than helped; a detail print of the shaft or its bearings would have concentrated the attention upon the subject covered by the problem and have given it proper interest.

Personality of Teacher.

Whatever may be the equipment provided or the method employed, the personality of the teacher must furnish the chief basis for the securing of attention and interest. Of two teachers using exactly the same material and plan and employing exactly the same language, the advantage will lie with him who possesses a personality which awakens the student and makes him feel that the work undertaken is worth while.

If the teacher be wide-awake, he will hardly fail to keep his class awake; the drowsy teacher will probably have a drowsy class (so far as study is concerned). Enthusiasm on the part of the teacher toward the subject taught will make that subject a live one for the class; if the teacher regards the subject as one of the necessary evils which must be endured, it will be difficult to prevent the students from feeling the same.

Patience with the slower students or with those easily discouraged will help to re-establish their interest and an effort to help meet their short-comings will aid in bringing them up to the level of others. It is very easy to form the habit of giving special attention to the brighter, ambitious boys and of neglecting those who either naturally or purposely fall behind. The attitude of the teacher which the student interprets as saying "if you don't want to learn I haven't time to bother with you," or which suggests "you stupid thing, why don't you get this" will not go far toward securing the interest needed.

A sense of humor and of cheerfulness will keep the school spirit at its best and drive out many a grouch. The ability to recognize "blue Monday" atmosphere and vary the program to offset it will help keep the teacher where he should be, the real leader of the class.

Clearness of speech and thoroughness of knowledge are, of course, essential to the winning of the confidence of the apprentice. The teacher must keep up to date and know more than the class or they will lose their respect for him. Honest dealing and a display of fairness in all the matters coming up between student and teacher will help to establish the most desirable of relationships between them. Only as the teacher stays in the lead and wins the class to the position of willing followers, can he accomplish all that is possible in the apprentice school.

Initiative.

The problem of the apprentice school, as has been suggested elsewhere, is not to give special opportunity to a few bright students so much as it is to help develop the talents of the average student. While it is true that the school should discover talent for leadership and help develop it, the fact remains that many leaders come from the ranks of the "ordinary" apprentices and their ability does not develop till the latter part of their period of preparation, perhaps not till after they have completed their apprenticeship. It is, therefore, desirable that every effort be made to encourage initiative in the rank and file, since from any of these young people may come the future foreman, superintendent or manager. It is perhaps unwise to hold up this possibility as a goal for attainment, but there can be no harm done in encouraging each apprentice to become an expert in his line, and future advancement will largely take care of itself.

Self-Reliance.

Since initiative may be defined as the ability to "initiate" or "start something," self-confidence based upon attainment is essential to its development. The school program which encourages the student to think for himself and to find solutions for practical problems will help in this direction. In our discussion of "Reasoning" we have referred to the importance of gradually reducing the amount of assistance given by the teacher and increasing the burden carried by the student.

Much of our school problem work has the defect of giving all the information needed for the finding of the answer, and students who are brought up on such material may be in danger of becoming helpless if problem data is not always given in the form needed. Where possible, problem material should be varied so that after the principle involved has been fixed by use in simple problems, the material needed should be obtainable by observation, by reference to handbooks, by measurement of objects, by research or by experiment. For example: A problem calls for the determining of the proper diameter of an air hoist to carry a given load, if the air pressure is that carried by the air pipes in a given shop; it may be that the load to be carried by the hoist is not specified but it must be such as to provide for the handling of certain material or parts, the weight of which must be obtained in the shop. Again the problem may be to design an eccentric for a steam engine, the proportions to be taken from a hand-book; the design of a wrench to suit a certain job, the details not given to be obtained from catalogues; the strength of I-beam sections in a crane runway, the properties of the beams being found in a hand-book; the amount of friction in a certain machine, to be determined by test, etc.

The nearer that problem work can be made to approach to the actual needs which arise in shop operations, the more useful will they be and the better able will the apprentice be to tackle emergency problems when they arise in the shop. The teacher who is on the lookout for questions coming up in the shop, and who can bring such questions into the class room, will be helping the boys to see the larger needs of the trade and meet the demand for intelligent help. Originality may well be encouraged in the overcoming of difficulties and in the design of real tools and fixtures.

Accuracy.

The boy who can be depended upon to do a task accurately and thoroughly is apt to develop self-reliance and initiative. If his work is frequently incorrect, incomplete or undertaken on the wrong basis, he is likely to lose confidence in himself and fail to develop such talent as he may have. Carefulness in calculation and in drawing is essential to the formation of the habit of accuracy and the teacher may do much to direct the student in his thinking and working so as to develop the habit. The steps in the execution of careful work may be stated as follows:

1. Read the problem carefully and know thoroughly what it covers.
2. Decide upon the steps necessary to work out the solution.
3. Figure carefully and see that all necessary operations have been performed.
4. CHECK THE CALCULATIONS before handing in the result.

It is well that students be encouraged to feel sure that their work is right when handed to the teacher and that they find their own mistakes before others have occasion to find them. Drawings should be accurate and neat and it is wise to have those redrawn which are not reasonably accurate.

Legibility of writing and even in rough calculating is important, for illegible figures or letters are often mis-read by those who make them as well as by others, and the practice of slovenly writing encourages mistakes.

While accuracy is inherent in some students more than in others, the habit can be formed in most everyone with effort, and the value of the result is well worth the labor. Good discipline will help to promote carefulness. Laxity in the enforcement of important rules will encourage the letting down of standards and the passing by of improper work. System and orderliness in the affairs of the school will make easier the enforcing of the rule of accuracy, and the practice and habit of the teacher will count much in establishing the rule.

Observation.

The ability to see those things which others pass by places the owner of that ability in a different class from the others. The observant student finds information and opportunity which has come to him of his own seeking, and the power of initiative has been strengthened by this voluntary effort. The greater the power of intelligent observation, the greater the initiative developed. As has been suggested elsewhere, the habit of observation may be formed to some extent and increased through the use of questions or suggestions by the teacher, and the fullest use of this method of education is very desirable.

A class of foundry apprentices saw little use in attending school; they could learn the art of moulding in the shop and what else was there that they needed to know? It was not long, however, before they began to discover all sorts of conundrums in the shop about them and under the direction of a wise teacher they were able to take a deeper interest in their work because of the things they had observed and now understood and the investigation habit which had been provoked within them.

Problems requiring such study as that of an assembled machine and requiring the listing of the various parts, bolt, screws, etc., are helpful. They involve carefulness of observation and the necessity of seeing all that should be seen, for observation and thoroughness should go hand-in-hand. If concentration of thought accompany observation and the student be taught to think his way through the problem suggested by the observation which consists of "gaping about" merely to "see things" will sometimes do more harm than good, since it is likely to take the thought of the observer from other important things, but that degree of observation which recognizes hidden value and concentrates upon securing that value, utilizing spare time in seeking out the unknown, will find it easier to solve those problems whose answers are not found on the surface of things.

Responsibility.

The relative importance of the work done by the apprentice, both in shop and school, will have much to do with the development of initiative. If he is given work of relative unimportance he will develop little sense of responsibility, but if his work be increased in importance as his ability to execute work increases, he will grow more rapidly and show the extent of his talents.

While this is particularly true of work in the trades, it is also true of work in the school. Actual problems of improvement in method, analysis of shop methods and estimates of cost, all may help to make real the theoretical work he has covered. Fictitious problems will serve for exercise, but actual propositions alone can develop confidence and strength.

BIBLIOGRAPHY

The following books are suggested courses of reading in the technique of methods which are of special value to teachers:

TITLE	AUTHOR	PUBLISHER
The Instructor, The Man and The Job.	Chas. R. Allen.	Lippincott.
Corporation Schools.	Albert James Beatty.	Public School Publishing Co., Cleveland, O.
Second Annual Report of the Federal Board for Vocational Education.		Government Printing Office.
A Brief Course in The Teaching Process.	George Drayton Strayer.	Macmillan Co.
Types of Teaching.	Lida B. Earhart.	Houghton Mifflin Co.
The Mind and Its Education.	George Herbert Betts.	D. Appleton Co.
The Seven Laws of Teaching.	Gregory.	The Pilgrim Press, Boston, Mass.
Method in Education.	Ruric N. Roark.	American Book Co.
Psychology in Education.	Ruric N. Roark.	American Book Co.

Selections from the following books will prove of the utmost importance as reference material in connection with the Question and Answer Method:

TITLE	AUTHOR	PUBLISHER
Methods of Teaching, Chapter 18, pp. 296-313.	W. W. Charters.	Row, Peterson Co.
How to Teach, pp. 213-218.	Strayer and Norsworthy.	Macmillan.
Types of Teaching, pp. 97-101.	L. B. Earhart.	Houghton Mifflin Co.
What is Education? Pp. 222-232.	E. C. Moore.	Ginn & Co.
The Recitation, pp. 55-78.	G. H. Betts.	Houghton Mifflin Co.
Story Telling. Questioning and Studying.	H. H. Horne.	Macmillan Co.
The Question as a Measure of Efficiency in Instruction.	R. Stevens.	Col. Univ. Press.
A Catechism of Army Y. M. C. A. Methods.	J. A. Urice.	Association Press.

Project Method

Title	Author	Publisher
A Study of Engineering Education, pp. 54-66.	C. R. Mawe.	Carnegie Foundation Bulletin No. 11.
Vocational Secondary Education, pp. 56-59.		U. S. Bureau of Education Bulletin No. 21, 1916.
General Science. Teacher's Manual, pp. 8-10, 21-26.		Massachusetts Bureau of Education Bulletin No. 2, 1917.
Project Study Outlines, p. 16.		Massachusetts Bureau of Education Bulletin No. 5, 1912.
Agriculture Project Study, p. 30.		Massachusetts Bureau of Education Bulletin No. 4, 1912.

Job Sheets

Title	Author	Publisher
The Cooperative System of Education, pp. 37-43.		U. S. Bureau of Education Bulletin No. 37, 1916.
Instructions for farriers and auto mechanicians.		Committee on Education, and Special Training War Dement, Washington, D. C.
Standards of Practice.		Harley-Davidson Motor Co.
Western Electric Apprentice Instruction Sheets.		J. W. Dietz.

Magazine Articles

Title	Author	Magazine
Continuation Schools for Teachers.	H. S. Curtis.	Educational Review, September, 1918.
Most Common Faults of Beginning High School Teachers.	H. S. Curtis.	Educational Review, September, 1918.
Teaching Teachers.	R. M. McElroy.	
Packard Training Schools for Employes.	D. G. Stanbrough.	Industrial Management, November, 1918.
Instructions to Assistant Foremen.	George H. Shephard.	Industrial Management, November, 1918.

APPENDIX

METHODS OF INDUSTRIAL EDUCATION

By NANETTE HAMBURGER

Plan

I. Definitions.
II. The Need of Studying Methods.
III. Consideration of Industrial Methods.
  A. General Values.
  B. General Classification.
  C. Specific Consideration.
IV. Bibliography.

Methods of Industrial Education

I. DEFINITIONS.

James[1] defines education as "Organizing resources in a human being of powers of conduct which shall fit him to his social and physical world."[2] "The end is always conduct." Industrial education means occupational education. It seems as though this would include any training except purely cultural study. (Perhaps James would deny that that *is* education at all.)

This interpretation is upheld by Mr. Henderschott's statement[3] of the objects of industrial training:

1. To give pupils respect for useful work, ability to render service, contempt for social parasites;

2. To develop motor and manual skill beyond the merely routine and automatic, to foster a constructive, an inventive and creative habit of mind, and to preserve due proportions between them; that is, to supply a better grade of labor for the good of the worker and of the country in the competitive struggle for world commerce;

3. To promote intelligent understanding and knowledge of conditions and processes of contemporary manufacturing, transportation, and commerce;

4. To convince the worker that he is also a consumer;

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[1] Talks to Teachers, p. 29.

[2] Ibid., p. 30.

[3] N. A. C. S. Confidential Report *Industrial Education*, Feb., 1919.

5. To stimulate the ability to think and reason logically;

6. To teach the value of commercial time, accuracy, and a sense of responsibility for himself and for others;

7. To promote "Team-work" and prove the value of cooperation and self-government to increase group efficiency;

8. To stimulate industrial imagination and original thought;

9. To promote skill in application of industrial principles, grasp of trade conditions, ability to organize and handle men, accuracy in keeping records of men, machines, material, minutes;

10. To comprehend principles of scientific management, and to determine cost.

"Method comprehends everything that pertains to the system employed in the presentation of subjects of instruction to pupils."[4] Their methods of industrial education would include *all* methods, technical, scientific, academic, which can contribute to developing the individual or group of individuals for an occupation.

II. THE NEED OF STUDYING METHODS

Although educators have developed the underlying principles of psychology, the study of methods is still unformulated. To quote James:[5] "Psychology is a science, and teaching is an art, and sciences never generate arts directly out of themselves. An intermediary inventive mind must make the application." Methods, then, are ways of adjusting psychology to particular situations.

Heretofore this application has been academic and narrow, limited to professional and theoretical education. The experience of the 1918 Committee on Methods, of The National Association of Corporation Schools, leads them to declare:[6] "It has been our recent experience to find organizations conducting educational work somewhat reluctant to enter into any discussion of the educational methods in use in their schools. There seems to be a general opinion that such discussion is always theoretical and not often conducive to practical results." On the other hand,[7] "The experience of many directors of intensive short courses in specific jobs on war materials has demonstrated not only the necessity but also the very great value of pedagogical consideration. Hundreds of courses upon which weeks, and even months, have been spent, have been mastered in a few days, and in many cases in a few hours, first, by organizing the essential points and materials to be mastered, and, second, by presenting these essential points according to set psychological principles and pedagogical methods."[8] "It is not so much what the person learns; it is more how he learns it and how much the mind is developed, in order to enable him to undertake his work in the industrial world. It is (therefore) up to us to develop and extend educational methods with the same effort extended toward efficiency which we wish to see resulting in industry."

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[4] N. A. C. S. Proceedings, Vol. V, p. 239.

[5] Talks, p. 71.

[6] N. A. C. S. Proceedings, Vol. VI, p. 195.

[7] Ibid., p. 194.

As a result of this condition, ill-defined teaching policies often breed slovenly habits of mind and thought, where the[9] "racial stock, the raw material is good—intelligent and eager to learn."[10] "In all the United States there are fewer trade schools than in Bavaria, with a population little greater than New York," while[11] "the demand for trained workers is increasing, especially in the face of the tremendous competition with Europe" where there has been successful vocational training. To be specific: labor is not coming from abroad. Our resources are wearing out. Yet we must keep our higher standard of living while we compete with the workshop of the old world, where far lower standards still obtain.

There is one inevitable solution: greater efficiency of the human element. (This means efficiency of training, efficient methods.)

III. CONSIDERATION OF METHODS

IIIA. General Values

Of the methods as developed, some which function well under certain circumstances are useless under different conditions. Methods (or combinations, since one alone is rarely to be used) must be selected according to the student's capacity, the time allowed for presentation, the nature of the problem being taught, equipment, and the form of instructive agency;[12] 1, General Education; 2, Manual Training Schools; 3, Pre-vocational Schools, including Junior High Schools; 4, Vocational Schools, Technical, Trade, Part-time, Continuation, Corporation, Commercial, Agricultural, or Industrial Laboratories. However, in practice certain methods are found to be more highly efficient than others, irrespective of the particular situation. This may be due to something inherent in the method, but is more probably the result of its use at the wrong time, or exclusively, or by an unsuccessful teacher.

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[8] Ibid., pp. 195, 6.

[9] Mr. Henderschott, Industrial Education.

[10] Ibid.

[11] Ibid.

Indeed, method is only one of several variants which together determine the success of our educational process, the others being the teacher, the subjects taught, and the equipment —but most of all, the teacher.

IIIb. General Classification of Methods

In general, methods can be classified as: 1, *Instruction;* 2, *Observation;* 3, *Manual Action.* The first is purely Study; the third, purely Practice or Work; the second, a combination of the two.

With Instruction, the source of information *gives,* the student *receives.* There is danger that he become merely a passive recipient. But this is far from inevitable. Clever oral instruction should arouse students to considerable mental response. Well written books may be both gripping and stimulating. Discussions may entail research—self-activity of scholars. Observation (more or less) and manual action (completely) demand activity, mental, physical, or both, on the part of the student. Moreover, they are objective, dealing with things rather than with words; hence, essentially vivid. "The average mind, whether scientific or not, can grasp the objective illustration . . . . and to attempt to teach people the abstract is a difficult thing."

A complete training involves theoretical knowledge, or *Study,* and its application in *Work.*

IIIc. Special Consideration of Methods

There are about fifteen recognized methods. Under the head of *Instruction* may be classed:

1. The Study and Recitation Method.

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[12] Mr. Henderschott, Industrial Education, p. 8.

2. Supervised Study.
3. The Lecture Method.
4. The Library Method.
5. The Seminar Method.
6. The Conference Method.
7. The Objective Method.
8. The Correspondence Method.

Action Methods are:

9. The Laboratory Method.
10. The Project Method.
11. Supervision and Imitation.
12. The Inventive Method or the Problem Method.

A combination of Instruction and Action is to be found in:

13. The Discovery Method, or the Experimental Method.

Observation includes:

14. The Observation and Inspection Method, including The Demonstration.
15. Visual Instruction.

An adequate understanding prescribes that we know the procedure, the source or origin, the force and the failings, and something about where, when and how the particular method might be employed.

Study and Recitation Method[13]

As its name indicates, this means the re-citing or giving back to the teacher such information as the pupil has gathered from the instructor or from study in books. It dates from earliest times. Its advantages are that: (1) it gives the teacher an opportunity to know exactly how much of the work is mastered by each pupil; (2) it is definite and can clear away all difficulties of misunderstanding; (3) it enables the instructor to place proper emphasis on principles and theory; and (4) it fixes ideas in the student's mind, by repetition and review. Its disadvantages are that: (1) it tends to be artificial, unpractical, disconnected with life, overstressing the purely theoretical; and (2) to degenerate into mechanical memory work. Neither is necessary, since if clearly administered, reciting can be applying principles to new and practical situations.

The Study and Recitation Method must be used (1) for theoretical knowledge, for the student's learning and for the teacher's control through definite assignments and clear indication of aim. (2) It must be used for review. (3) It may become a method of showing students how to obtain knowledge, where the assignment includes hints as to the problems concerned and methods of attacking them.

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[13] Mr. Henderschott, Industrial Education.

Supervised Study

This means studying under direction, following a logically prepared outline. With the demand for efficiency, the ineffectiveness of most "home study" has been recognized. To meet the situation, schools are beginning to supervise study. (1) Students can obtain aid when needed, by consultation with instructors, an economy of time and effort. (2) Teachers can watch pupils, learn where the difficulties lie, and correct them, teaching "how to study." The pupil may become too dependent. This must be guarded against. (1) The method is useful for students not capable of studying efficiently, (2) where preparation involves information the student hasn't, or cannot easily obtain, and (3) as a training stage.

Lecture Method

Lectures, where students take notes, and are later examined through written tests or quiz-recitations, date from the early classical ages, when books were not yet written, or manuscripts were so scarce, their contents had to be delivered to audiences (listeners). (1) Such a method saves time. (2) Moreover, the teacher can absolutely control the information given to the students (which is not the same thing, unfortunately, as the information the students get). (3) It should be a source of inspiration, bringing the learner in contact with authorities in special fields, men reputed for success, and with men of inspiring personalities. (1) As the pupil is inactive, lectures foster inattention frequently. (2) Impressions are slight, however, since we learn, or fix information, only by acting in some way. (3) There is very serious danger of the speaker's covering too much ground. (1) This is the university method for advanced workers, executives, foremen or college-trained employes. (2) It is the method for very large groups. (3) It lends itself to subjects of general information, to surveys of entire fields (such as a lecture on "The History of Apprenticeship"), to topics nowhere else acquirable, as personal experience, ideas, or presentations. (4) You may use it to save time.

The Library Method

This reference method implies special reading assignments in a library of books and periodicals on general and technical subjects pertaining to the occupation. These investigations are reported on, orally or in written form. It is the scholarly method of all times. The student at once (1) learns how to get information and (2) develops self-reliance. (3) It is a better way of acquiring facts than through lectures, because the reader must discover for himself; and preferable to the text book in that he is responsible and cannot obtain his knowledge later through the reciting of the class. (4) The Library Method tends to form the "Book-habit." If sensibly adapted, there should be no difficulties. (1) But without guidance, work may be wasteful, scattered, inconclusive. (2) If the company does not allow sufficient time, so that investigations encroach on students' leisure, they may become a tax and arouse unpleasant associations. (This will be permanently harmful.) (3) Then, too, books should be very carefully chosen, lest dull, incomprehensible, or otherwise discouraging sources fall into the hands of readers.

(1) These advantages have not yet been sufficiently recognized. Few industrial schools have adequate libraries. Facilities should be supplied through cooperation with public institutions or through works-libraries containing books for purely company service and books of cultural value.

Wherever there is opportunity,[14] the Library Method should be employed to supplement study, lecture or observations. (2) If assignments of supplementary reading be sufficiently *exact,* all persons of moderate ability can profit by this method. (3) It is by all means the best way of getting at facts which cannot be discovered through personal experience, or where knowledge already possessed can be checked or augmented by the experience of others as it is to be found in books and periodicals. The library must keep an index of magazine articles and clippings.

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[14] P. 198, Vol. V, N. A. C. S. Proceedings: "It is as important that the students be well read as it is for them to be trade learned. Good cultural reading will open the student's mind to a larger field, resulting advantageously for himself as well as for the company."

(4) Some company time must be allowed. The hours during which the books are available should be as long as is possible. Otherwise, if the student must tax himself in his free time, or if the books are not accessible, there are no benefits received. (5) Finally, investigations must be recognized so that the student does not feel his work "has been for nothing" (to be sure a wrong attitude, but a human fact). The report must be presented in oral discussion, or if written must be carefully criticised, to bring out the value of the material and of its organization.

The Seminar Method

The Seminar is a special form of Library Method. A general topic is logically divided in outline form, each division being assigned to one student. Members of the group responsible for a topic assist one another. So, too, there may be intergroup aid. In this way the entire general subject is built up. This is a scholarly method which began with the universities in the fourteenth century. (1) It develops a student's initiative and cooperation to a high degree, but (1) it is complicated and (2) apt to be academic and remote. (1) Only the most advanced students should attempt this form of research, (2) in developing theoretical knowledge which justifies individual investigation. (3) It is best adapted, perhaps, to new fields or new organizations of material.

The Conference Method

Conferences may take the form of (a) meetings of an individual with his instructor, more experienced employes, or officials; and (b) of group discussion and debate of an assigned topic. Students take notes, and are later quizzed, or examined. This form of discussion is seen in the economic, political or social forums of the earliest civilized times. (a) Personal conference has the advantages of (1) individual help, and of (2) contact, but may develop dependence if too frequent. (b) Group discussions develop (1) the participant's ability to think quickly and clearly and to the point, and (2) self-reliance in obtaining his information. (3) The collective knowledge of a number of representative or mature persons is apt to be fairly complete, and the teacher can always guide, suggest or add. Further, the result will be more than an arithmetical sum of the individual amounts of information, since one mind playing upon another will bring out new thoughts. (a) These forums are apt to "wander" and (2) are often wasteful of time. (3) They must not be used with students of incomplete preparation or ability. (b) (1) For thoroughly mature students who are sufficiently equipped, (2) under careful supervision, discussions are vivid and constructive. (3) For conventions of executives they are especially adapted. (a) Individual consultation (1) gives the educational director opportunity to follow the student, (2) forms an opportunity for the direct clearing away of difficulties or of stimulating or praising, and (3) is a source of the good-will and confidence so necessary a part of the success of any educational method.

The Objective Method

The Objective Method conducts study by pointing out particular objects and explaining their significance, in the particular language taught. Originally it was a reaction to pure memory work (Pestalozzi, about 1800), a teaching of young children of the concrete object. Only within the last ten years has its obvious fitness for teaching language been recognized. "I open-the-door," you say, suiting the action to the word. The foreign employe repeats both words and action. The associations "open" and "door" and "I" are fixed. "The pen is black," you explain. He *sees*. The value of this Dramatic Method is that motor associations enforce the mental. It is too slow a procedure, except for teaching the foundations where the number of points covered is no object in comparison with their clearness. Here it is strictly economical even of time (since a thing need be *learned* but once). But it must be supplemented by study and discussion.

The Correspondence Method

The Correspondence Method is instruction by letter. The essence of the material of texts must be assimilated and given in form directly applied to the student's business. This constitutes the difference from text-books. Especially with beginners this must be supplemented by questions to which the students write answers, or checked up by examinations, not mere memory questions, nor ones answerable by "yes" or "no," but questions eliciting originality. The best form is the problem which requires the application of principles, thus checking not only "absorption" of the lesson, but actual understanding and control of information. Within the last twenty-five years, since education has come into its own, correspondence schools have sprung up to provide a substitute for regular school or college work for students who could not attend ordinary sessions. Although much was, and some is, pure "fake," that is aside from the method itself which has much in its favor. It is economical since (1) a large number of students can be taught by a small force of instructors, and since (2) a minimum of equipment is required. (3) It enables teaching employes too scattered for direct instruction. (4). Usually each lesson emphasizes a single point, and is therefore clear and forceful. (5) Moreover, definiteness is a natural consequence, since neither can the instructor offer the empty rhetoric possible in lectures, nor can the students be inexact or indefinite in "black and white." (6) The advantages of criticizing and returning the student's replies are that he has individual guidance and that after the lapse of time, he sees his own work (and criticism) more impersonally, more truly. (1) To be sure, there is none of the stimulation of personal contact either with instructor or fellow students, (2) nor of discussions, (3) nor is there chance for settling questions as they arise. (1) But where scholars are so widely scattered, or so far from the source of instruction as to be reached only in this way, (2) or for general subjects, and such as advertising, or office methods, or safety rules, correspondence teaching functions well. Especially successful for traveling salesmen, it not only should teach the inexperienced, but should go out to refresh the memory of the "old" salesman, much as a doctor "keeps up" with at least one medical paper.

Laboratory Method

"Learning by doing," not necessarily in a laboratory, but wherever the process is normally worked out,[15] "provides real experience as a basis of required information or skill, or to aid and reinforce the development of mental power." Although the seventeenth century saw this method championed (Montaign and Spencer), it was not until about 1825 (Froebel) that it reappeared under the caption of "self-activity," based on the theory that human beings are creative rather than receptive creatures, and tend to express themselves in action. Psychology reveals that[16] "there is no impression without expression," hence (1) the Laboratory Method ingrains the idea, the result, into the brain fiber. (2) It also recalls the objects and implements which produce these results, and in their production (3) it develops mechanical skill and ingenuity. (4) It is a character builder. It engenders "a habit of observation, a knowledge of the difference between accuracy and vagueness . . . precision; because, if you are doing a thing, you must do it definitely right or definitely wrong; . . . honesty; for when you express yourself by making things, and not by using words, it becomes impossible to dissimulate your vagueness or ignorance by ambiguity . . .; a habit of self-reliance." (5) Finally, it is of financial value, since much of the work is actually productive commercially. Its drawbacks are that (1) it is expensive, owing to costly equipment and waste of material; (2) it is harder to find teachers for (and they command higher salaries); (3) and it is impossible to keep the pupils together, so that it becomes difficult to keep theoretical study parallel with practical work. (4) Although a student may be assigned to a shop task until he masters it, in order to keep all persons and all machines busy, often, time on shop work is limited definitely, so that the worker *does* but does not *learn*. This results also if the shop problem employs merely mechanical skill apart from understanding the theory, principles, laws or aims.

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[15] N. A. C. S. Proceedings, Vol. VI, p. 198.

(1) The Laboratory Method is perhaps intrinsically best. It should be used wherever practicable to train through actually performing the task. (2) However, it must be combined with the study or library method, correlating the theoretical and the practical. This may be done by reading assignments parallel to laboratory periods, or in class discussions, or by means of cooperative schools. (3) Work should be on useful and productive objects where possible, or under conditions similar to real working ones (where theoretical study or supervision precludes assigning the student to regular commercial production).

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[16] James: Talks, p. 33.

Project Method

One phase of laboratory work is the Project Method, the antithesis of piece work. A student produces the entire project, including all the various steps in the process subject. (1) This develops initiative, and that even more than in the Laboratory Method, for the student has to work out each step in the light of its relation to the whole enterprise. (2) It arouses interest, feeling of cooperation, self-respect and pride in his production even for the piece worker, who learns the significance of his performance in relation to the whole. (3) It may aid vocational selection by indicating a student's aptitude. It not only suffers from the faults of the Laboratory Method, but in addition tends to develop a jack-of-all-trades master-of-none. It has been the experience of the D. E. Sicher factory that girls who can handle any machine are indifferent on all. (1) For foremen of shops or of installation gangs, or wherever a knowledge of the entire process is needed, the Project Method is necessary. (2) Where it will help workers better to understand their specialized parts, it is advisable. (3) To the exclusion of other methods, it is not to be considered.

Supervision and Imitation

The teacher performs the operation for students to copy, and directs their execution, or he instructs and then supervises pupil's work. This is the method of the prehistoric savages.[17] (1) "Man *is* an imitative animal; this is the natural method." (2) It is also productive. It becomes automatic, however, disconnected with thought or reason, and develops conformity in place of initiative, if not supplemented by "original work." (1) Where the choice lies between this method and verbal directions, imitation is preferable, since inability to follow word directions is proverbial. It is the method of Shop Apprenticeship Schools, the most elementary type of laboratory work. (2) It is useful also in teaching mechanical subjects, such as writing, or stenography, where the visual picture must be made to give the students understanding, or a mental image.

Inventive Method—Problem Method

This, again, is a phase of laboratory work. You begin with something planned to be made and to serve a purpose, that is,

[17] James: Talks, p. 48.

you give a problem. Materials are distributed and pupils directed to supply the need. Enough instruction must be given for workers to understand the problem, its aims, the use of their tools. This develops imagination as well as self-reliance.[18] (1) There is the danger of being indefinite and of reaching no conclusions, or (2) (even more than under the Laboratory Method, where there is more direction) of doing poor work and developing bad work-habits. It should be very possible to guard against these weaknesses. As an application of theories, in connection with study, or (3) as a mode of attacking a new proposition which the student's previous knowledge fits him for, the Problem Method is splendid. (4) It should practice on useful and productive objects where possible, and under working conditions.

(An interesting example of its use is given by Mr. Dooley, in the 1917 Proceedings.)[19]

The Discovery Method or the Experimental

The student is surrounded with atmosphere and apparatus favorable to discovering certain facts or processes, and is expected to make the discovery. In place of stating a truth, and following it up with proofs or details (deductive), the teacher, working from what the pupils know, through connections, by means of a series of questions, leads the class to derive the facts (inductive). In the field of actiòn, this laboratory method not only provides that the worker produces results, through his own initiative, but that he draws a conclusion, discovers the result of the process. In other words, the Discovery Method gives the apparatus and the method of attack, the student using his tools as directed until he discovers a result. The Problem Method gives the apparatus with just enough instruction to make its use clear, the result desired, and leaves the worker to invent a way of reaching it (to represent mathematically).[20]

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[18] "If thought, imagination, initiative and originality are what make the difference between success and failure, mastery or mediocrity, then the Problem Method is THE method. In schooling, 'A good deal of our forcible conformity to system irons out what ability a boy may have.' 'The effects of modern industrialism are showing themselves now in lack of imagination.' Then the responsibility of arousing the imagination of the young people, of developing brain power, is very heavy upon us."

[19] This is an account of a Freshman class in drawing, ranging in age from fifteen to twenty-five:

"The instructor gave a brief explanation of two or three of the principal points which show what a mechanical drawing is, and he did not call it either an angle or a projection, and he said: 'Make a survey of one-half of the piece, as you find it, by looking down at it, then put that here (indicating); then put on this side the half you would use if you looked at it here (indicating). Now design a shaft 2x4x8, and seventy-five of the class had it done in an hour and a half. They did not know what a T square was, did not know how to sharpen a pencil, but they had it done and it was done right. There was an instructor present to answer questions, and he was pretty busy. That was his business, but not to give specific information, but have the boys ask questions and reply to them. The boys are so enthusiastic that they want more problems to do, problems they never heard of before. They get into all kinds of trouble, but they are real troubles, and they come to instructors full of questions."

Discovery Method

Given: Apparatus
Method

Required: Result

Problem Method

Given: Apparatus
Result

Required: Method

The Discovery Method came early, but has been applied only recently, a revolt against imitation and the artificiality of study.[21] (See 20.) (1) As in all Laboratory presentations, Discovery is impressive and interesting. (2) It develops a student's ability to reach thought conclusions, (3) confidence in his power to think, (4) belief in the general truth which he has discovered for himself. (1) Unless guidance is skilful, you may not "arrive." (2) Often the process is slow. (1) Where the points to be covered are of some significance, (2) and are attainable from the pupil's previous knowledge, (3) where time and equipment can be found, this should be a very satisfactory method. It is especially adapted to teaching sciences, being the method of "experiment."

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[20] N. A. C. S. Proceedings, Vol. V, pp. 205-6.

[21] The Object Lesson soon led to the teachers giving objects to the students, and asking them to discover facts for themselves. (This is seen as recently revived with considerable success in the Gary system of reaching nature study. The question method of reaching truth is the method of Socrates with seventeenth century (Bacon) science superimposed.)

Observation or Inspection Method

Inspection trips to other departments, to other plants, even to other cities and to plants doing different (though related) business, followed by class discussion and by oral and written examinations, are the most recent outgrowth of the old "Object Lesson." Visits to factories, to farm, to city departments add novelty to the daily routine, (2) and should at the same time increase individual efficiency since the men can learn from the best in others' work. (3) But primarily this serves to give a broad foundation upon which to build a thorough knowledge of the business. (1) Unless observers are directed *what to see,* however, there may be no educational results. (2) Or members may try to see *too much,* and so retain nothing. (3) Such visits are expensive, requiring "non-productive time" even when not entailing transportation. Nevertheless, the method is invaluable for (1) giving the employes a broad general view of the business of any concern, or (2) making them understand their part in the process (where Project teaching is not practical). (3) It is excellent for reinforcing theoretical laboratory or class room knowledge. To do this (4) it must be under the direction of a man trained in company work, and if possible with a representative of the visited department, in order to control the observations of the students.[22] (One concern gives out a simple series of questions to which answers must be found.) (5) Trips should be on company time, and compulsory, (6) should include not more than twelve in one group (the attention of larger units cannot be held), and (7) are better at intervals than bunched. (An interesting example of this method, supplemented by others, is to be found in the Proceedings, Vol. IV, pages 403 and 404.)

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[22] N. A. C. S. Proceedings, Vol. VI, p. 205.

Demonstration Method

Demonstration is a form of Observation where students learn by watching the performance of those particularly successful; or by taking the "parts" in the transaction among themselves, the rest of the group watching—perhaps marking—for specified points (such as Tact, Initiative, Aggressiveness, Suggestion, Knowledge of goods) as well as for general skill. (A lucid example is given by Mr. Howlett, of Diehl Manufacturing Company, in the Proceedings, Vol. III, pages 592-4.) In either case the demonstrators are brought before the class under circumstances as nearly "real" as possible. Discussion and questions should follow. This gives an opportunity for making points somewhat better than the observation trips. However, it is isolated from actual conditions, and it may be difficult to get people of sufficient ability, who will not become self-conscious, to set up as models. The disadvantage of students' demonstrating is that the time for preparation takes energy as well as minutes from their daily productive work. It should be possible, however, for the preparation to be made at odd moments and during non-productive and "slack" time. Demonstrations are being used to-day especially in salesmanship courses,[23] and should be more widely substituted for the older type of imitation.

Visual Instruction

Visual instruction makes use of museum exhibits, moving pictures, stereopticon, other pictures, maps, graphs, charts, etc. The use of illustrative material has been preached by pedagogy for half a century. But the moving picture is the latest thing in education. (1) Not alone do pictures impress more than words, (2) they give the correct image, while the pupil's translation of words is often incorrect.[24] (3) A picture gives at a glance what would require many words. (1) Such visual material—especially moving pictures—may be extremely expensive, or even (2) not accessible. (3) You are always tempting the student to passiveness when you give him predigested information. (4) Not infrequently you develop a play rather than a work attitude, where the pupil's interest centers in the picture rather than in the facts it illustrates (particularly in moving pictures).

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[23] N. A. C. S. Proceedings, Vol. V, pp. 679-681.

[24] You can show and re-show exactly the same thing. In lecturing you never make precisely the same points in the same way, or you may omit, or add, thus forming a hazy rather than sharp image.

The more and the more varied illustrative material, the better, used within reason, and not exclusively. Moving pictures are being used largely for safety-education. The Government has found them invaluable in teaching such things as the use of the Lewis gun. Even colleges are beginning to employ them to teach physics.[25] Industrial Moving Pictures is a rather new expression. May it become more familiar.

IV. Bibliography

Books on applied psychology and on pedagogy have something to offer concerning methods. The N. A. C. S. Committees on Methods are making valuable reports and appending bibliographies (see Proceedings, Vols. V and VI). Various other sorts of committees are beginning to offer suggestions: as, the pamphlets of the "Women's Educational and Industrial Union." But the literature on the subject of methods is slight.

Books consulted in the preparation of this report are:

Beatty: Corporation Schools (Schools and Home Educational Monographs).

Mr. F. C. Henderschott: Report on Industrial Education, February, 1919.

James: Talks to Teachers.

Monroe: History of Education.

N. A. C. S. Proceedings, Vols. IV, V, VI: Vol. IV, pages 88-122, 150-153, 326-342, 403-404, 484-505. Vol. V, pages 178-179, 190-201, 233-267, 335-336, 342-343, 389-390, 401, 419-421, 452-460, 594-597, 661-664, 665-690, 734-735, 774-775, 778-789. Vol. VI, pages 193-228. Bulletins, especially November, 1918, December, 1918.

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[25] For an example of their use, see Proceedings, Vol. V, pp. 335-6.

COMMITTEE ON OFFICE WORK TRAINING

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THURSDAY—EVENING SESSION

OFFICE WORK TRAINING

THURSDAY EVENING—JUNE 5, 1919

VICE-PRESIDENT KINCAID, *Presiding*

VICE-PRESIDENT KINCAID: The report of the Committee on Office Work Training is the first report of the evening. Our Executive Secretary, Mr. Henderschott, will present this report.

MR. F. C. HENDERSCHOTT (The New York Edison Company): In the absence of Miss Harriet F. Baker, Chairman of the Committee on Office Work Training, it is my privilege to present to you this excellent report.

On page 701 of this report you will notice a digest of the work of previous committees on office work schools. This report, together with the two preceding reports on this subject, practically form a Manual on Office Work Training.

Under Item 3, page 711, "Weeding Out Undesirables," the report suggests that "Business English with special emphasis on correspondence and effective speaking," should be considered as one of the indispensable courses to any carefully planned scheme of training.

It seems to me that effective speaking would not be such a vital factor in training office help unless the intention was to develop the office force into a sales force. The office force oftentimes is developed into the sales force and it is generally agreed that a salesman, in order to succeed, must have the ability to speak effectively and convincingly and this is what is meant by the committee when they say one should include a course on effective speaking, not necessarily public speaking, any kind of speaking—a private interview or anything else—so that the representative of the company can develop a method of effectively and forcefully expressing himself and getting his full message over.

Item 5 in this group is "Company Policy and Organization." Many new employes fail because they do not understand a company's policy and organization and are constantly working at a disadvantage. They mean well, but they are working with poor tools.

Item 6 is "Citizenship." I think nobody denies the value of training in citizenship at the present time.

Then the report goes into "Women and Office Work," and also the "Effect of Increasing Invention and Application of Mechanical Devices on Office Training," and this is very important, because nowadays very few people figure with their heads and pencils. They use some device for doing their figuring, just as we use the typewriter, and multigraph and mimeograph and a thousand and one different appliances that have made modern office work efficient and up to date.

The committee then takes up the question of "Maintaining Relations with Outside Training Sources" and goes into the training of executives somewhat, and "Types of Successful Office Work Schools," and finally there is quite an extensive bibliography. I think this presentation will be sufficient for the purpose of discussion.

VICE-PRESIDENT KINCAID: This report is now open for general discussion.

MR. SYDNEY W. ASHE (General Electric Company): I should like to inquire how many of those present have office work schools in force and what success they have had with them. I think it is one of the forms of training that most of us have had the least experience with, and if any of those here have office work schools in force, and their experience with them has been fairly successful, I should like to know just what their experiences have been.

CHAIRMAN HENDERSCHOTT: Let those who have had experiences with office work schools hold up their hands. (Nine of those present held up their hands.) Will each one who held up his hand kindly sketch briefly what he is doing and what success he has had in connection with these office work training schools?

MR. W. M. NELSON (General Electric Company): We have in the General Electric Company at Schenectady training rooms in which we instruct and train stenographers, typists, phonograph operators, and operators on the Burroughs and comptometer calculating machines.

We find these training rooms to be of great value in eliminating those who are unqualified and in giving further instruction to those who have the necessary foundation. We train the latter so when sent to the various departments they can do the work in a satisfactory manner.

Stenographers, typists, and phonograph operators, when first entering the training room, are instructed in the use of the many labor saving devices with which the typewriters are equipped. Samples of the work which is done each day in the various departments are given them to copy. In the case of stenographers this is followed by dictation. All work is carefully corrected and returned to the operators, who make corrected copies. After reaching a certain degree of efficiency the operators are sent out and their work carefully observed. If the work is not up to our standard, they are recalled to the training room for further instruction.

The men required to give dictation are saved a great deal of time by having a stenographer come into their office who is familiar with the work of their department, as well as that of the company.

These training rooms eliminate the undesirables, for as a rule it is unnecessary to tell an applicant that he or she is not qualified to do our work. They see that for themselves and automatically drop out.

Mr. Glyger (Marshall-Wells Company): May I ask just a question—is this a vestibule school, or is it a regular office course school carried during the whole time?

Mr. Nelson: When we started this training it was in the nature of a vestibule school, but later we used it to train our own employes. The school is open from 8 A. M. to 5 P. M. two days a week and from 8 A. M. to 7 P. M. three days a week. This makes it possible for our employes to attend either during the working hours, if their work permits, or three times a week after working hours.

Mr. Glyger: Approximately how much time do you give a stenographer, for instance?

Mr. Nelson: It all depends upon the stenographer. We give them from two hours to three weeks.

Mr. Glyger: Full time?

Mr. Nelson: Yes, in the case of applicants for positions as typists, stenographers, or phonograph operators. For those taking training for calculating machine operators, we have a 25-day course requiring, during that period, the full time of the pupil. In order that these operators, after they have completed the course, will not obtain employment elsewhere after we have trained them, we require of them while they are attending the school a weekly deposit, which deposit is refunded after they have completed the course and been in the employ of the company a certain length of time.

MR. GLYGER: Is that done just in the case of new employes?

MR. NELSON: We also do that in the case of our old employes except that we make the refund as soon as they have completed the course.

MISS ANNE DURHAM (Western Electric Company, Inc.): We think we have quite an extensixe training course along clerical lines. We first start with the office boy. He has several weeks training in class work and practical direction under the instruction of the boy instructor. Then we have them work on the comptometer and learn the key punching operations. This work consists of common exercises which can be taught in any business college.

Later we have the boys work with people in the filing department, and after that they go to the shipping office. This course of training lasts about four weeks, two hours a day; one hour is recitation, and one hour in study. Then the practical work is supplemented by work in the shop.

Referring to the high school graduates, we have a course for high school boys in accounting and production work. This course covers practically four to five weeks. They work in these departments, and are at all times under the supervision of the instructor in the case of the classroom work, as well as the practical work. We have work for girls and call them junior clerks. This work covers three to four months. We give them classroom work once a day, and then keep them working on the job which they have been studying about in the classroom. Then there are courses for college men which cover a year's time, and we are going to put on courses for college women. We have a course for foreign students who are sent abroad, and also for those who may be on the road in this country so that they get a complete knowledge of the work of the Western Electric Company.

MR. GLYGER: In this five weeks' course you give to the high school boys, is that a continuous course?

Miss Durham: Yes.

Mr. Glyger: You take them from one department to others?

Miss Durham: Yes.

Mr. Glyger: And work them how long in each department?

Miss Durham: It varies from one week to nine weeks.

Mr. Glyger: What is the idea?

Miss Durham: Some departments are not as complicated as others and in some there is merely posting work, but as far as the posting is concerned, we want them to know how it is carried on, and how the material is issued and the tickets are checked up. It is something that would not ordinarily be put on, but we want them to know the details of the job so that they get a general idea of the whole business.

Mr. Glyger: What work do they commence on?

Miss Durham: The boys in the production department work on the output.

Mr. Glyger: They spend four or five weeks in the production room?

Miss Durham: They spend part of that time in the other lines, so that they will know the general requirements of the business. We want to give them a general, broad view of the business. The boys in the expense accounting also must know the work of the production branch or they would not get a general view of the business as a whole.

Dr. A. J. Beatty (American Rolling Mill Company): We have one office training course which I think may be of interest to some of you—it is all right theoretically, and it has worked all right practically in the few cases in which it has been tried as it has been in operation but a short time. We call it an "adaptation course" for thoroughly experienced stenographers and secretaries who come to us from other companies.

It is meant for people who presumably have been thoroughly trained, and who need simply to be put on to the job in our plant in the least possible time. We got the hunch for this course from the short training courses which have been developed in the army.

When a new girl comes to our plant now, we propose to take her into the office of the Training Department, and to give her there an intensive course extending over not more than two weeks. She will do nothing during that entire two weeks but just get hold of the ropes in her new position. She is taught the plant geography, and the official personnel of the company. She learns the American Rolling Mill Company's method of handling office supplies, office materials, and the working regulations for our office force. The purpose is to give her in a short time, intensively, the very information which it would take her six months to get by inquiring of the other girls and of her employer, thus wasting a whole lot of time during that six months. By our new plan she gets all of that information in the shortest possible time and gets it in the best possible way, and starts on her job properly equipped. Theoretically, I say, it seems all right to us, and it has worked very satisfactorily in the few cases in which we have tried it since the course was started.

CHAIRMAN HENDERSCHOTT: Are there others who wish to speak on this subject?

MISS MYRA A. PAINE (Montgomery Ward & Company): Our company started something new recently, and I should like to tell you a little about it. It is simply an experiment so far, and perhaps a good deal of it is theory, but we believe the theory will work out. It may take a year or two, but eventually we believe it will work out. We have installed a new system of records in connection with the buying, and we are trying to keep a closer supervision of the records along various lines.

First of all, I give short talks, perhaps an hour and a half a day, for four or five days to the older supervisors, primarily to explain the course, and also to bring to the attention of these supervisors, who have been in the place ten years or more, a little idea of something new, and in this way get them to look beyond their particular jobs. So much for the training of the old supervisors.

Then we take into the office, girls and boys of various types; some are high school graduates without any experience at all, and some are school teachers who have had no business training. We take these people in and teach them first of all the details of the recording system. Our main idea is to let these people, in the few weeks of initial training, find themselves. We say to them as they come into the office, "We have this much information. It is in the files over there. There are two or three people in the office who will help you learn as much as possible, but as far as actual supervision is concerned, you must show your own initiative to do what you want with the material." They are guided and watched closely for the first week, and usually they get started on some idea of their own, and after they have been in the office for three weeks, they go into a division and start a new system or perhaps help in the work. They report back each day to the office, and we find out how they are progressing.

Talking on the teaching end, the buyer comes out and adds her knowledge of the business to the general sum of knowledge being imparted to the student. She also has had a training course. She makes quite a competent teacher, and she knows the things that are not done right. We give incentives for them to watch these new people coming in, and they say, "You don't do that right. That is not good policy for an executive. You are doing too much detail work. You are following this thing too closely. You are sticking to too much detail work, where you should get out and plan," and all these friendly criticisms help the new people a great deal.

This is the theory of it. The larger percentage of those people who are coming into our office are proving themselves satisfactory. This is the experiment I want to put before you, as it seems to me that such a plan embodies the best way of getting young people started as executives, by telling them what to do, what not to do, not only to put the task before them, but to help them along in the performance of the task.

MR. H. S. CRAIGMILE (The Goodyear Tire and Rubber Company): About 50 per cent of the speakers at this Convention so far have prefaced their remarks by apologizing for the fact that they were not the originators of the reports they have submitted. I shall have to appear in the same category. I am in the factory end of the game, and all of our office training work is carried on in the General Office. Mr. C. P. Kramer is in charge of our "Better Business Letter Course." Mr. Kramer has traveled extensively over the country, and has obtained a digest of the best business practice used in writing sales letters, collection letters, etc., and he issues a course which is given to our branch managers. It is also given to department managers and assistant managers in the general office. In addition to that we have a Correspondence Manual, which is taught to all stenographers in the plant. I am not familiar with the length of time that is given to instruction in this Manual. As to the results of the plan, I was somewhat amazed the other day when Mr. Brooking, of The Spirella Company, told me of an experience of his. He was traveling on a train and saw a young lady reading one of our business correspondence courses. He said he knew something about it and immediately went over, got acquainted with her, and hired her. It seems he thought the fact that she was familiar with our business correspondence course was a pretty good recommendation.

For our stenographers, we have a stenographic and typist training school in which the girls are paid, or used to be, $50 a month while they are learning, enough to keep them, and a certain amount of additional salary is withheld. At the end of a year's training, or whatever length of time it is, if they are still in the employ of the company, they are given the additional amount in a lump sum.

CHAIRMAN HENDERSCHOTT: I will sketch briefly The New York Edison Company's plan in the Commercial Division. When we hire an office boy we immediately put him under training. We give him a sort of office manual, and we emphasize the details of the work he is to do, which are usually considered of so little value that they can be overlooked, but they constitute the efficiency of the office boy.

For example, the first thing we teach him is how to show a person into an office. Instead of taking a man into a room, and letting him guess or imagine as to which person is the one he wants to see, we have the boy take the man to the desk and say: "This is Mr. So-and-so." We find this courtesy is much appreciated by the public.

Everybody who is employed in our company starts on a procession of advancement. The office boy is advanced to junior record clerk, and while he is still an office boy, he is taught the duties of junior record clerk. We first write an examination, and in this examination we write the principal duties of the job, and write the course to fit the examination, and we have found that effective. When the boy can stand the examination, he is prepared for advancement when a position is open. Of course, the increase of salary must follow the same Saturday, after the promotion is made, otherwise nobody considers it a promotion; that is, the increase cannot come in as a matter of adjustment some weeks or months later.

After the boy is advanced to be a junior clerk, he is taught the duties of record clerk, and then special record clerk, and then, when he is advanced into that position, we teach him the duties of inspector and agent, which is an outside job. We are always instructing the boy for the job just ahead, and promote him as rapidly as he is capable of promotion.

This ties up with my statement this morning that we do not hire boys that have not had a grammar school education for that division of the company, because we have found, without such a grammar school education, they have not sufficient fundamental education to permit them to be promoted.

In addition, we have a regular two years' course which takes up the things that we think they ought to be taught. If any of you are sufficiently interested in the matter and will write me, I will send a copy of the Year Book that has all the courses carefully laid out. We develop the boy with the idea in view that possibly he may become the president or general manager of the Company.

Of course, we cannot promise him when the promotion will come; this depends on conditions. When the war broke out, we were searching for people competent for promotion, and we had to discontinue the regular system and put it on a basis of intensified training for emergency conditions.

We have a course which we used to call "Personal Hygiene Course." First, there was a little feeling against this course on the part of the women employes. We found it was better to call the course "Health Factors in Industry," as "Personal Hygiene" sometimes implies uncleanliness, which caused resentment. This course has become one of the most popular and best courses we have ever given. Some of our girls who used to dance very late, and come in always ailing and sick, and unprepared to discharge their duties efficiently, were more or less unsatisfactory until we engaged the woman doctor or instructor to tell them what was the trouble. She also told them how to dress for business. I used to have a girl in my office who had two strings of beads around her neck, and spangles on each arm, and I could not get up the courage to tell her that was not good practice, as she was a very competent girl, but the woman doctor told her the first day she was there. The girl removed them and found that the work was much easier after she did so. The woman doctor can tell the girls things of that kind when a man can not. The same thing applies to the men.

Then we have a course for stenographers, but do not teach stenography. We do teach business English. We teach the terms of our particular industry so that the stenographers are familiar with them, and what the meaning of the terms is, punctuation and things of that kind. Our courses run from one lecture on the efficient use of the telephone—I believe we have sixteen different factors now, and the course can be covered in one lecture—the intelligent use of the telephone, which is one lecture, and from that it will run to a two years' course. Many of the girls take the course. Because a girl enters the employment of the company as a stenographer does not mean she will always remain a stenographer. We have women managers of departments of "Home Economics" and "Electric Therapeutics," and the girls have a chance for promotion to the management of these bureaus and similar bureaus which they can handle as well as men managers, and we find some of the stenographers, while practicing stenography qualify themselves to become assistant managers and managers.

We try to keep the road open all the way up. This is the seventh or eighth year of our school, and in normal times our labor turnover is very small, but recently you have not anything to guide you.

MR. GLYGER: How do you keep your help satisfied when there is not a job open just above the grade they occupy?

CHAIRMAN HENDERSCHOTT: I am glad you asked that question. We do not keep our help satisfied. If we did, we would think there is something wrong in the company. If there is a good position in the industry for which they are qualified, we send out a notice to every one in the department that they may apply for it, if they care to, even though it involves leaving our company. We have kept up that practice for seven years, and it is generally known throughout the industry. We print a memorandum and paste it on the Bulletin Board, that such a position is open, pays so much money, and if any of our people care to apply for it, they may do so. You must treat your people as you would like to be treated, and that is the way you would like to be treated. This practice takes some people out of your organization, but it stimulates other people to be efficient in your organization.

Our business is a regulated monopoly, operating in a given territory, and therefore more or less static, and if there is open a position of assistant manager or manager of a District Office or Bureau, we appoint a committee of five to consider the applicants for the position and to determine their qualifications for the position, and anyone who cares to apply for the position may do so, if they think they can qualify for it, and the committee judges on four points: First, as to personality—personality is a very big factor in serving the public, and personality is twenty-five points; second, education—their education before they came with the company, and their record with the company—and that is another twenty points; and then in the matter of attendance we mark minus twenty points, if the attendance has not been good, but if it has been good that counts for twenty points in favor of the applicant. We are a public service corporation, and we are required to serve the public during certain hours, and attendance with us is a very vital factor. Our people must be there when the public comes in. And finally there is the opinion of the applicant's present manager, which counts for thirty-five points.

As to the personal record, we keep a personal record of every employe in the department from the time they enter until they leave, and keep it forever afterwards for reference purposes. It is fair alike to the employe and the company. Our general manager does not come in contact with five per cent. of the employes, of whom there are 650. When a question arises as to an increase of wages, or employe's promotion, you want a picture of the employe and his history while with the company, and if a record is kept, that gives the picture. We stimulate our employes to look at their records, and we issue a progress record every six months. The employe may know what his record is at any time, and they can talk it over with their manager at any time.

We had one assistant manager who did not seem to be making satisfactory progress, and he came to see me to ascertain what the trouble was. I asked him if he had looked at his personal record, and he said "No." He had worked under five managers, and I told him that the reports showed that he lacked tact. "Why," he said, "that's my middle name. I have more tact than any other man in the company." Every one of the reports by the five managers said that he lacked tact. He took the matter seriously and from that time on there was a decided improvement in his record and finally he became a manager.

Sometimes you have to discount the reports of individual managers. Some managers will report in connection with an employe that he is "A-1, fine, could not be better," and another manager may report an employe as "green, not much good, something wrong with him," etc. Sometimes you have got to discount that very decidedly, and study the question of the personal record very carefully, and it is valuable when you study it.

There is another thing we pay for in our company, and that is potential value. We do that, because we advance our employes from one position to another. A man may be filling the same kind of a position that another employe is filling, and he is getting $2 or $5 a week more, but that is potential value. The company believes it pays to do it.

I have given you four of the points that go to make up the record of an employe who is seeking to accept a position in the industry, or for advancement in the company. Then we take as the fifth point, the manager's statement as to that employe's potential value. In the case of everybody who comes before this committee of five, which is to rate them, their attendance record and school record is laid before the committee, and each one of the five studies the personal record, and each one of the five weighs the manager's statement as to the potential value of the employe, and each one judges how much personality the applicant possesses, and then separately, they mark them on those points, a maximum of twenty on each of the five different points, and the man who comes out the highest gets the job.

VICE-PRESIDENT KINCAID: We have about one minute more. Is there anyone who wants to ask any more questions or discuss the report further? If not the meeting stands adjourned.

REPORT OF COMMITTEE ON OFFICE WORK TRAINING

SYNOPSIS

I. Digest of the work of previous committees on office work schools.
II. Selling the office work training school to industry.
III. Survey preliminary to successful organization of an office work school.
IV. Weeding out undesirables.
V. Effect of increasing invention and application of mechanical devices on office training.
VI. Importance of maintaining relations with outside training sources.
VII. Training of executives.
VIII. Types of successful office work schools.
IX. Bibliography.

FOREWORD

The accompanying report possibly needs a word of explanation. Few subjects with which the committees of the Association are called upon to deal are more susceptible of standardization—at least as regards fundamental phases—than office work training. The previous committees to which this subject was assigned have treated it with a fullness and thoroughness which leaves little pioneer work for the present committee. Especially is this true of the committee of 1916. Their report, particularly when supplemented by Dr. Lee Galloway's excellent book on office management, so completely covers the larger aspects of the problem as to leave the present committee—since these other sources are so accessible that it would be mere supererogation to formulate again, even in other terms, what is so excellently presented there—but little choice in the matter of confining itself, so to speak, to by-products of the subject and to a somewhat broader treatment of questions already taken up, together with a continuation of the bibliographies contained in three of the previous reports.

DIGEST OF THE WORK OF PREVIOUS COMMITTEES ON OFFICE WORK SCHOOLS

Résumé of the Work of the Committee on Office Work Schools for 1913

I. Relation between Efficient office routine and the payroll.
II. Relation between School and Company.
III. Need of standardized office operations.
IV. The work of the Peirce Commercial School, Philadelphia.

Résumé of the Work of the Committee on Office Work Schools for 1914

I. Value of Office Work Schools.
II. The Work of the Office Work School of the National Cloak and Suit Company.
III. Problem of training in small offices.
IV. Educational Work of Haines, Jones & Cadbury, Philadelphia.
V. Training railroad office employes.
VI. Corporation versus other schools.
VII. Aims of the New York School of Commerce.
VIII. Results of two questionaires forwarded to Class "A" and Class "C" members respectively.

Résumé of the Work of the Committee on Office Work Schools for 1915

I. Outline for a Correspondence Manual.
II. Outline for a Filing Manual.
III. Outline of Manual for Stenographers, Phonograph Operators and Typists.
IV. Bibliography of books on Office Practice.
V. Vital Corporation School problems.
    (a) Selection of the teacher.
    (b) Lesson routine.
    (c) Selection of pupils.
    (d) The standard clerk.

Résumé of the Work of the Committee on Office Work Schools for 1916

I. Outline for organization of an Office Work School.
- (a) Scope.
- (b) Objects.
- (c) Instruction plan.
- (d) Selection of teachers.
- (e) Costs.
- (f) Personnel.
- (g) Relations with other departments.
- (h) Equipment.
- (i) School management.

II. Outline for Correspondence Manual.
- (a) The importance of correspondent's position.
- (b) General information.
    - (1) Style book of catalogue.
    - (2) Information schedule for correspondents.
- (c) The construction of a good business letter.
- (d) Knowledge of words.
- (e) Words, expressions, etc., not to be used.
- (f) Repetition distinguished from emphasis.
- (g) Length of letters.
- (h) Inquiries—preparation for dictation.
- (i) Opening paragraph.
- (j) Concluding paragraph.
- (k) Adjustment mail—complaints.
- (l) Follow-up letters.
- (m) Conclusion—thought—imagination—concentration and effort—the foundation for success.

III. Outline for Filing Manual.
- (a) Importance of file clerk's position.
- (b) Filing points in general.
    - (1) File cabinets.
    - (2) Methods.
    - (3) Systems.
- (c) Points for the beginner.
    - (1) Filing equipment.
    - (2) Filing systems.

- (d) Essentials for accurate filing.
- (e) Aids to efficiency.
- (f) Follow-up system.
- (g) Charge systems.
- (h) Cross referencing.
- (i) Lost papers.
- (j) Guiding.
- (k) Duties of clerks assigned to filing.

IV. Outline of Manual for Stenographers, Phonograph Operators and Typists.

- (a) Importance of work and qualities essential to success.
- (b) General rules.
  - (1) Attitude toward work.
  - (2) Care of machines.
  - (3) Office and routine rules.
- (c) Stationery.
- (d) Interpretation of dictation.
- (e) Dictation.
- (f) Identifying letters.
- (g) Carbon copies.
- (h) Carbon paper.
- (i) Order of answering—Letters to have preference.
- (j) Helps to stenographers.
  - (1) Inserting carbon.
  - (2) Erasing.
  - (3) Underscoring.
- (k) Dating.
- (l) Headings.
- (m) Recipient's name and address.
- (n) Estimating the length of a letter.
- (o) Salutation.
- (p) Paragraphs and margins.
- (q) Two-page letters.
- (r) Complimentary closings.
- (s) Identifying dictator—transcriber.
- (t) Telegrams.
- (u) How to pin and deliver transcribed letters.
- (v) Envelopes.
- (w) Office detail.

- (x) Details for Phonograph Operator.
    - (1) Description of phonograph.
    - (2) Phonograph slip.
    - (3) Handling of finished cylinders.
    - (4) Unfinished cylinders.
- (y) Details for fill-in typists.
    - (1) Sample copy letter.
    - (2) The multigraphed letter.
    - (3) Addressing envelopes.
- (z) General rules for capitalization, syllabication and punctuation.
- (o) Use of the dictionary.

V. Outline for Complaint Manual.
- (a) Instructions for complaint adjusters.
- (b) Complaints classified.
- (c) Sources of information.
- (d) Adjusting.
- (e) Forms of adjustment.

VI. Outline of Manual for Office Boys and Messengers.
- (a) General instructions.
- (b) Organization.
- (c) Courtesy.
- (d) General conduct.
- (e) Personal appearance.
- (f) Punctuality.
- (g) Accuracy.
- (h) Economy.
- (i) Cooperation and team work.
- (j) Observation.
- (k) Attention.
- (l) Concentration.
- (m) Answering the telephone.
- (n) Visitors.
- (o) Don'ts for office boys and messengers.

VII. Bibliography.
- (a) Collateral reading for office practice (Pupils).
- (b) Collateral reading for teachers of office practice.

Résumé of the Work of the Committee on Office Work Training for 1917

I. Résumé of 1916 report.
II. Outline for teaching employes in offices of average size.
III. Results of a questionaire.
IV. Bibliography.
  (a) Business English.
  (b) Correspondents.
  (c) Office methods.
  (d) Miscellaneous.

SELLING THE OFFICE WORK TRAINING SCHOOL TO INDUSTRY

It is all very well for the theorist and the manager who has had actual experience of the benefit to his business of office work training to extol its merits, but the comparatively small number of such organizations (there are only about twenty of any real significance) proves that industry as a whole is by no means "sold" on the project. We get desperately worked up over freight rates but we suffer without knowing it something that costs us ten times as much. Ninety-five per cent of our children call their education finished when they leave the 8th grade of the grammar school. What do they go out with? Economically speaking, a nearly useless smattering of unrelated information. Hence the mistakes, inexperience, and ignorance that cut down our industrial output.

And not only in the shop but also in the office are these deficiencies felt. We must convince industry at large of this and of the consequent value and need of office work training. How are we going to do it? We are certainly not exaggerating the importance of this problem when we claim for it a forefront position among the industrial problems of reconstruction. As for what it means to have an efficient office force, listen to Andrew Carnegie:

"Take away all our factories, our trade, our avenues of transportation, our mining, but leave me the organization and in a few years I will re-establish myself."

Arguments for an Office Work School.

We can bring the following facts to the attention of employers and it will be found that they will very generally admit them:

First—The astoundingly rapid development of the material resources of the world which has been the distinguishing feature of the past hundred years is likely in the years to come to assume a relatively slower pace. Consequently application to the study and development of personnel relations is the field which promises to be most productive of results in the way of conspicuous progress in the immediate future.

Second—The average employe takes up a new job with a blank page as far as experience in that particular work is concerned. Even the few who have had similar experiences are unfamiliar with the special methods peculiar to the new employer. Moreover, shifting jobs and promotions imply the mastering of new processes, new responsibilities and ways of doing things. Office workers are for the most part left to pick up these various types of information for themselves and after more or less hit or miss fashion they acquire what they need to know.

Third—It is common sense to conclude that a limitation of the always costly training period to as short a time as possible would lessen the expense of such training, and there is no other way of so limiting it than to give the necessary information in an orderly, logical and organized form.

Fourth—The classics of industrial education, prepared in part by the Committees of the American Federation of Labor, tell us that if you give a boy pre-vocational training from 14 to 16, put him in training at his life work at sixteen and, after he leaves the regular school, give him two years more of training in a continuation school, offering instruction in his particular job, his full earning power will be advanced eight to ten years; that he will be able to earn at twenty or twenty-one what he would be able to earn at twenty-eight or twenty-nine if he were left to shift for his own training in the old way, and that by so much earlier is he able to have and support his own home.

Fifth—Nor is it only in the abbreviation of the various periods of training that the lessening of production costs may be looked for. Costly mistakes by a green mechanic are expected by every foreman. But a green clerk can actually do more damage to the interests of a concern in five minutes through inexpert handling of customers, correspondence, the telephone, account books, etc., than a mechanic can accomplish in an entire day.

Sixth—The highest percentage of labor turnover in office or in factory occurs during the first six months. Not only would scientific training lower the number of costly mistakes during this period, but such training also has value psychologically in correcting the "lost" feeling and the nervous tension which the sense of his own rawness and ignorance awakens in the new man or the man new to his particular job.

Seventh—Mistakes are not always made from ignorance, but from unsuitability to the task. Here also is a fertile field for the Office School. Probably no other equally suitable means of classifying employes is available. Of course, years must elapse before methods of human and job analysis will be recognized as beyond dispute, but in the meantime such measures as have proved expedient can be applied and, in the case of the non-productive end of an enterprise, the records of a well organized and efficiently conducted office work school is best capable of applying them.

Eighth—Such records might also well serve to disclose the fitness or unfitness of workers for specific jobs and thus serve as a basis for a scientific system of promotion and standardization of salaries. This data would supplement, or on occasion could even be a substitute for, the present more or less prejudiced and unreliable methods.

Ninth—The possibilities of such a school also in the way of maintaining a contented force and stimulating their interest and cooperation in company aims and policies can hardly be overrated. The office school is ideally constituted for the transmission, both upward and downward, of facts regarding employers and employed, for the opening up of avenues of advancement, for the clearing up of misunderstandings, and for the inculcation of a spirit of loyalty, personal responsibility, and co-operative effort.

Tenth—To the director of office work training also naturally falls the formulation of and the training of employes in standard methods of office work, eliminating useless motions and saving time lost in doing things half a dozen different ways, perhaps none of them the best. The most important waste in business is not of materials, but of time in the way of antiquated and haphazard methods and processes. Of course, reduction of wasted time cannot be secured without the loyal cooperation of the employes, but the introduction of standard office routine methods is equally imperative.

Eleventh—It is a matter of primary importance that each employe should be mentally and physically adapted to the work demanded of him. Unfortunately, in the majority of concerns, candidates for employment are usually accepted and assigned to the positions for which they make application without any thorough attempt to discover whether they are really fitted for such tasks or not. One of the chief causes of inefficiency is mental inferiority. Under this heading may be included the intellectually inferior subject, the psychopathic case, and the individual who for some reason or another is undergoing a process of mental deterioration, whether due to the effects of alcoholism or some other habit. The office work school is inherently qualified for the discovery and weeding out of such undesirables by a series of mental tests to which the employe should be made to submit not alone on admission but periodically thereafter. In a word the completely organized, efficiently administered office work school will justify its existence economically by:

1. Saving training expenses, by abbreviating and systematizing the training.
2. Lessening the number of costly mistakes.
3. Reducing the nervous tension of the recruit.
4. Promoting, classifications and readjustments.
5. Keeping records which may serve as a basis for promotion and standardization of salaries.
6. Stimulating loyalty and interest.
7. Standardizing office methods.
8. Saving salaries paid to mental incompetents.

COST AND SAVING OF AN OFFICE WORK SCHOOL

But although all these facts may be admitted, the spread of the service of the office work school is radically hindered by the lack of tangible, coherent data as to its results in the way of lowering production, clerical, and overhead costs. One large New York concern claims to have effected a saving of $40,000 in one year and that on only one department. Another—a large publishing company—affirms that at a cost of $5,000 it has approximated a saving through its office work school of $46,500 a year. The unit cost of each transaction going through a certain office before the establishment of an office school was $1.16. The following year the cost was $0.57. Two years thereafter the figure had sunk to $0.48. In the meantime salaries had increased 19⅔%. It has also been estimated that the cost of from $50 to $100 required to break in a new clerk has been lowered to from $20 to $25 by the introduction of office training.

If such scattered statistics as these could only be supplemented by fuller data, The National Association of Corporation Schools would find no difficulty in substantiating its contention that an office work school is one of the fundamental requirements at least of those concerns employing upward of a hundred employes.

SURVEY PRELIMINARY TO SUCCESSFUL ORGANIZATION OF AN OFFICE WORK SCHOOL

After considering the need of "Organized Training" for any office force, and assuming that the management has consented to its introduction, there are certain questions which should be satisfactorily answered before classes are finally established for instruction.

Is the office organization efficient? That is, is the force clearly divided into departments with proper supervision for each? Is responsibility clearly defined? Are the proper people employed for the work? This latter condition may be tested by examination of the percentage of labor turnover. Has a study been made of the qualities to be desired in employes for the particular kind of work they are called upon to do? Is the company profiting by past experiences and trying to eliminate as many as possible of those applicants who are likely to remain in its employ for only a short period? Has a manual of methods and systems for study been prepared? Has provision already been made in the departments where new employes are placed for some one to inspect their work, correct and instruct them? Do they know and feel that the person in charge of their work can be called on for advice and counsel? Does the department head appreciate the importance of personal contact and frankness with his employes? Does he commend each employe for good work as well as criticize his faulty work?

The committee cannot help but feel that many firms have grasped organized training as a "cure all" and later have been disappointed with results. Organized training is excellent. Organized training is to be recommended, but it is believed that a study of internal office conditions—aside from education—as affecting the untrained employe should also be urged as a preliminary step. If this is done, organized office training can be provided at the proper time and greater results will accrue to the employer.

WEEDING OUT UNDESIRABLES

Admitting that an office work school is by its very nature the best of mediums for sifting the clerical force, the restricted labor supply of the past three years has practically nullified efforts toward fitting the right man for the right job. Managers have had to take what they could get and educational departments have had to content themselves with trying to round off the corners of the obviously square peg as far as possible to make it at least approximately fit the round hole. The most serious handicap under which the conscientious director of an office work training class has had to labor during the past four years has been the conglomerate material out of which he was expected to construct an efficient operating force.

Generally speaking, the objects of office work training are three in number:

(a) The training of new employes in the performance of certain assigned duties.

(b) The preparation for more advanced work.

(c) Training in matters of general information touching the work of the Company.

The successful attainment of these objects will be dependent upon the quality of the students, the selection of subjects to be taught, and the ability of teacher.

Courses which would suggest themselves as indispensable to any carefully planned scheme of training would be:

1. Office practice—including efficient telephoning.
2. Commercial subjects—as typing, shorthand, commercial arithmetic, commercial geography, industrial history and the elements of commercial law, etc.
3. Business English with special emphasis on correspondence and effective speaking.
4. Practical hygiene.
5. Company policy and organization.
6. Citizenship.

Of course many allied studies could be added and made optional but compulsory attendance on courses of fundamental importance to industry should be insisted upon.

This would be the ideal arrangement; but as the vice-president of the Larkin Company has happily phrased it—"The office work school at present is not an institution. It is an expediency." Under current conditions a basically sound, comprehensive office work training system is out of the question because of the immense amount of time which must be wasted teaching the very rudiments of education. In other words, how is it possible to enroll in the comparatively advanced courses outlined above students capable of such mental flights as these?

"While cotton clothes are soft, of poisons in texture and permit air, thereby helping the body from the effects of perspiration."

"Benjamin Franklin was the greatest man of the colonial welfare, not because he modernized the welfare of the poorly advanced colonies."

"The dullness and bleakness of the people which craved for excitement."

"They were the dullest living people at this time."

"At this time the King of England had the charter in American and they were a great deal of trouble to him. So he wanted to form Connecticut and Rhode Island as a state. And the people of Rhode Island didn't want this. So a charter was drawn up to form a state of the two charter. When finished and was to be handed to the governor the light were put out. A search was made but they could not find the charter. But later a duplicates of the charter was found in oak tree. And up today original charter has never be found."

"One other cause that may be attributed to the vanquishing of the Indian race, that being the horse."

"The period during the civil war dating from the year 1820 to 1865."

"Bird is spelt *bird* when it is the name of a street it is spelt Boyd."

"May be attributed chiefly by three reasons. Chicago—in the Western part of New York."

"The general attitude were known as——"

"A lobester a la Newberg."

"Magellan sailed around the world but he was killed before he accomplished it."

"They made the people swear their religion."

"Information of the liver."

"One of the chief causes for slow development towards civilization of the Indians was iron and domestic animals."

"The world's first hint that a new continent had been discovered was the sight of great city, Pacific Ocean."

"One of the roughest capes there are——"

"The main fundamental misunderstanding, etc."

"Insufficient sylvia mixed with food."

"Irration of the mucus lining."

"The East was the richest trading city of Europe."

"The learned men of Columbus' day believed the world to be round because when it was sailing it went out of sight."

"Sells and tissues obtain food from the blood."

"Men study History so that they might get an idea where each town or city is located on the map."

"They did not believe in the Roman Kaflick religion."

"Salem was very religious. It barred all enjoyment out. So the younger generation started witchcraft. It became very popular. Lots of poor innocent people were called witchcrafts and killed."

"They did not know the use of iron or horse and other animals."

"Columbus was at times a pirate and a slave trader. He was mostly a lover of the sea. As a man he had great self confidence and was very religious, his belief was Catholic."

"Declaration of Independence—A meeting which resulted in forming a government of their own."

"The Great Lakes are in Mexico."

Clerks, stenographers, telephone operators, and salesmen—all of them American born and graduates of grammar school, some of them with one or two years in high school—how well prepared are the writers of the above sentences—which have been selected quite at random from various examination papers submitted in courses of the office work school of a large corporation—to take up the business of office organization and operation.

Worst of all they are but average samples of their kind. And the committee has no doubt but that nearly every delegate present could offer similar experiences.

We must demand from our applicants for office work higher qualifications in the way of elementary education. It is a waste of time and money to teach in the corporation school subjects that should have been fully mastered in the grammar grades. Mere statement of graduation is not sufficient. Evidence in the form of a written examination that the new employe has the basis upon which further training may be safely superimposed to the end that the firm's time and money is not wasted in instructing him in the things he should know thoroughly when he leaves school, is a suggested function of the office work school. If the employment department makes a mistake and hires the wrong sort of clerk it should be the privilege of the school to weed out the poor material before it has had an opportunity to become established as a part of the organization—that is to say of the office organization; for the fact that an employe has proved unfit for clerical work by no means stamps him as undesirable from the point of view of other departments. This whole subject suggests the possibilities inherent in a preliminary course —where a preliminary test is inconclusive—for the ultimate exclusion of the unfit, first from the organization as a whole, and, second, from the clerical to other departments for the work of which they may prove themselves fitted.

Women and Office Work.

In this connection a wider development of a movement already well under way is suggested. As a result of war and with the ever decreasing responsibilities in the home more and more women are entering industry. The problem is not to resist this movement but to direct it. Our woman power is one of the increasingly valuable and undeveloped assets of our country at the present moment. Translated into an army of skilled and contented workers this power could help enormously in the task of strengthening our industrial position. From both the physical and mental point of view office work is a specially suitable sphere for women. They are practically immune from the lure of the more highly paid shop work which proves such a temptation to the more ambitious and energetic type of male employe, for the dirt and noise characteristic of shop work is repellent to the average woman.

Urgent necessity made imperative from the earliest months of the war the collection and classification of all the data involving woman labor and these reports disclose some interesting and in some cases surprising facts. In none of the classifications do a majority of the establishments examined report women as less efficient than men. In fact, in many reports woman labor is adjudged superior, especially in accuracy, speed, and conscientious performance. Of special interest to the office work teacher is the statement that women as a rule are more teachable, more painstaking, and that "they follow instructions better." One of the surprising results of wartime labor-census taking is the general consensus of opinion that the attendance record of women is quite as high as that of men.

It has been estimated that about one-third of the clerical positions have been occupied by women, and that since the beginning of 1915 the increase of women in clerical work has been about 500,000 or about double what it was in 1910.

All government departments, all types of corporations and business offices are coming to see the value of women skilled in the commercial branches. There is a chronic shortage of capable, well-trained, serious-minded office assistants of all kinds —stenographers, secretaries, bookkeepers, file clerks, typists and machine operators—and the initial salaries for such women are higher than they have ever been before. The girl who is given the necessary training in stenography and typewriting and the right educational background and the right point of view, may advance to important secretarial work. Women with training in bookkeeping, auditing, accounting and operation of all types of labor-saving machines—the multigraph, graphotype, addressograph, Burroughs adding, typewriter billing and comptometer machines—will find a ready market for their services. Telephone and telegraph operators are being created far too slowly. Women with training in the fundamentals of economics and business organization and administration are being required more and more for important executive positions. The government departments and large business houses need experts in the organization and managment of file departments and there is a constant demand even for the inexperienced girl who has completed a course in filing. Banks are employing young women apprentices and a good course in banking and finance will help a girl to find herself promptly in the banking world.

The record of women for stability—since they are temperamentally more conservative and less eager for change—adaptability, general trustworthiness, and a native disposition to study and prepare themselves for the service to be rendered, indicates their special fitness for office work training.

An interesting feature of the classified wartime reports of a very large number of employers was the repeated statement to the effect that it had become the definite policy of many companies to raise the number of their women employes—especially their office workers—irrespective of any necessity for so doing.

EFFECT OF INCREASING INVENTION AND APPLICATION OF MECHANICAL DEVICES ON OFFICE TRAINING

Aside from a larger infiltration of women workers and a consequent necessity for their training, the work of the office work school is likely to be modified at no very distant date by the gradual increase in the invention and application of mechanical devices in office work. This will mean three things:

1. Greater standardization.
2. Increased monotony.
3. A possible if very gradual elimination of the stenographer and other clerical types hitherto deemed indispensable.

The first condition—namely, greater standardization—would prove an unmitigated boon. The most important waste in business is not of materials but of time. One way to very materially reduce wasted time is to find out the speediest and at the same time most thorough manner of performing common clerical operations and then stick to that way. No more fertile field for the energies of an office training teacher could be suggested than an investigation and report on standard office operations.

As for monotony, while the tendency in business to specialize and standardize is reducing the demand upon the alert attention and personal initiative almost to the vanishing point, the office school teacher is offered an excellent opportunity to demonstrate his resourcefulness in filling the void.

He must strive to convert automatic into reasoning workers; to arouse interest in the most unpromising subjects by arousing curiosity as to the how and why of business methods; to open to the workers knowledge of the history of commercial and clerical processes and an understanding of how much depends upon their efficient performance. The worker whose happiness in his work is regarded as a definite aim and an asset on the part of his employer; who is treated and trained as a possible executive; to whom reasonable opportunity is offered for advancement, is not apt to go stale on his job. According to the eminent psychologist, Professor Münsterberg, the feeling of monotony depends much less upon the particular kind of work than upon the special disposition of the individual performing it. The stimulating and training of the individual worker's disposition in the direction of seeing the larger aspects of his work must be recognized as one of the prime functions of the corporation school teacher.

On the other hand, with the third result, namely, increasing invention and application of mechanical devices in office work, the gradual elimination of the stenographer, etc., the office work school can have little relation. That step is only one of a hundred other probable effects of the evolution of industrial processes.

MAINTAINING RELATIONS WITH OUTSIDE TRAINING SOURCES

A feature which is not seldom overlooked by the educational department of a corporation is the duty of keeping in close touch and being a ready source of reference in regard to educational faculties open to the worker outside the school. Night courses, special lectures, extension and correspondence courses of high repute, the activities of such institutions as the Young Men's and Young Women's Associations should all be familiar to the educational director who should make it a point to endeavor to arouse his pupil's interest in one or more phases of such activities.

TRAINING OF EXECUTIVES

Although the urgent need of such training has not gone unrecognized, few corporation schools include in their curriculums courses for executives or even semi-executives—secretaries, assistant managers, etc.—for as a whole the more imperatively in need of such training, the more these officials refuse to admit it or to profit by opportunities to correct deficiencies in early education. Yet there is not a company all of whose officers are sufficiently trained in business correspondence to be trusted not to misrepresent it on occasion in letters and reports. There is not a company the majority of whose executives would not profit enormously by a thorough course in the essentials of good public speaking. The officials of large corporations are repeatedly called upon to speak on important public occasions, to serve as after dinner orators, to present the company's aims and policies orally before conventions, courts, and, on occasion, even before international congresses. Yet not one man in five hundred can speak let alone think lucidly, intelligibly, and convincingly when brought face to face with an audience. As a rule, even in the matter of the King's English in public speeches and addresses, a company may well feel ashamed at the records made by the majority of its representatives.

A certain firm has instituted an excellent advanced training course for executives and semi-executives. The list of classes includes:

I. Principles of Business (lectures and discussions).
    (a) Production.
    (b) Exchange.
    (c) Distribution of wealth.
    (d) Consumption.
    (e) Immigration.
    (f) Labor organization.
    (g) Trusts.
    (h) Money.
    (i) Banking.
    (j) Prices.
    (k) Railways.
    (l) Tariffs.
    (m) Taxation.

II. Economics and Civics (a reading course).

III. Effective speaking (lectures supplemented by calling upon pupils for illustration and analysis).
  (a) Choice of theme.
  (b) Development of original thought.
  (c) Framing an address.
  (d) Extempore speaking.
  (e) Preparation—physical and mental.

IV. Psychology (lectures supplemented by individual reading).

V. Personal Hygiene (lectures).

TYPES OF SUCCESSFUL OFFICE WORK SCHOOLS

The organization and working out of office school plans has been set forth in great detail in previous volumes of the Proceedings. It has therefore seemed best to direct the attention of the members to the volumes and pages where such plans can be found rather than to repeat them, more especially since war conditions have precluded the working out of new systems or important modifications of those already in operation. We list the schools not in the order of their breadth of plan but alphabetically.

Typical Office Work Plans.

Alexander Hamilton Institute, Vol. ii, pp. 514-15, 532.
Boston, Massachusetts, Department of Education, Vol. ii, p. 546.
Burroughs Adding Machine Company, Vol. ii, pp. 516, 532.
Cincinnati, Ohio, Department of Education, Vol. ii, p. 546.
Curtis Publishing Company, Vol. ii, pp. 500, 512, 516.
Equitable Life Assurance Society, Vol. ii, p. 516.
Fitchburg, Massachusetts, Department of Education, Vol. ii, p. 546.
Gary, Indiana, Department of Education, Vol. ii, p. 546.
Haines, Jones & Cadbury, Vol. ii, pp. 517-20.
Larkin Company, Vol. i, pp. 216-17; Vol. ii, p. 516; Vol. iv, p. 555.
National Cash Register Company, Vol. ii, pp. 529-34.
National City Bank, Vol. ii, p. 516.
National Cloak and Suit Company, Vol. i, pp. 204-8; Vol. ii, pp. 500-1, 507, 511, 516, 534.

National Surety Company, Vol. ii, p. 516.
New York School of Commerce, Vol. ii, pp. 551-2.
Pennsylvania Railroad Company, Vol. ii, pp. 521, 524-9.
Peirce School, Philadelphia, Pa., Vol. i, pp. 221-25.
The Sherwin-Williams Company, Vol. ii, pp. 513-14, 516.
Western Electric Company, Inc., Vol. i, p. 219.

The Committee is assured that additional information will most willingly be supplied by the companies named on application for such information.

From the point of view of office work schools in the abstract nothing has come to the attention of the Committee at all comparable in scope and arrangement to Dr. Lee Galloway's presentation of the subject contained in his *Office Management.* Under the general title *The Training and Development of Office Workers,* he discusses:

The selection of the right employe.
Training and education of employes.
Organization of an office training school.
Outlining a course of study.
The language of business-writing.
The language of business-speech.
The language of the executive.

There is also a chapter on the training of salesmen.

But for its length, the Doctor's consent would have been asked to a reproduction of his study.

Very informative also, but narrower in range, are three very excellent papers on corporation school training appended to the Proceedings of 1918. These reports were submitted with others in the course on Administration of Corporation Schools, conducted by the School of Commerce, Accounts, and Finance of New York University in cooperation with The National Association of Corporation Schools.

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Office Practice ....Mary Florence Cahill and Agnes C. Ruggeri
New York, Macmillan Co. 1917.

Modern Methods in the Office....................Harold James Barret
How to cut corners and save money. New York. Harper & Brothers. 1918.

Making the Office Pay ....William Henry Ed. Leffingwell
Tested Office Plans. Methods, and systems that make for better results from everyday routine, secured from the offices of the hundreds of successful business men who are using them to increase profits by cutting costs. Chicago. A. W. Shaw Co. 1918.

Office Manual ....
Including policy book and standards of practical instructors. Chicago. A. W. Shaw Co. 1917.

114 Proved Plans to Save a Busy Man's Time ....
Tested plans for making every minute count; ways to keep work free from interruption; how to put your office and desk in effective and time-saving trim; methods that help to speed up routine. Chicago, New York. A. W. Shaw Co. 1918.

Office Methods and Accounting ....
Organizing your office, laying out an accounting system, handling correspondence and office work. Chicago, A. W. Shaw Co. 1917.

How to Handle and Develop Your Own Business ....
Tested plans and methods that build success in business and profession—ways to make new profits; how to cut down the load of profitless detail work. Chicago, A. W. Shaw Co. 1918.

Accounting.

Accounting and Costs ....
Finding bank costs—how to check profit breaks—simple cost systems that pay—making every account profitable—tested ways to reduce cost. Chicago, New York. A. W. Shaw Co. 1918.

Fundamentals of Accounting for Industrial Waste ......F. J. Knoeppel
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Cambridge. Harvard University Press. 1917.

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New York. The Ronald Press Co. 1917.

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William Andrew Patton and Russell A. Stevenson
Ann Arbor. G. Wahr. 1917.

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COMMITTEE ON HEALTH EDUCATION

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THURSDAY—EVENING SESSION

HEALTH EDUCATION

THURSDAY EVENING—JUNE 5, 1919

VICE-PRESIDENT KINCAID, *Presiding*

VICE-PRESIDENT KINCAID: The next business before the meeting this evening is the report of the Committee on Health Education, of which committee Dr. F. S. Crum is chairman, and I take great pleasure in introducing to you Dr. Crum.

DR. F. S. CRUM (The Prudential Insurance Company of America): Our committee has not any real apology to make, because all the members of the committee, and our former chairman, were quite deeply engaged in the war activities, and did not find time to make as complete a report as the subject called for. The subject, as you will appreciate, is very large and has many ramifications.

The subject assigned our committee was to "codify the causes of sickness, injury and death in the industries of the United States, and suggest remedies," and you can see that is a rather large subject for any committee for one year's work. In addition to the war, the time of some of the members of the committee was completely taken up in combating the influenza epidemic, but that brought home to our committee one of the great needs in industry, and that is to be prepared to meet, so far as possible, such emergencies as an epidemic like the one we have just passed through.

To meet such emergencies, industry, we think, must wed itself more closely to the existing health agencies, particularly the local health departments and the state health departments. We hope to work out some general methods by which that can be accomplished, at least, to a very much greater extent than exists now, and that was accomplished during the past year in a few instances, and particularly in the instance of Mr. Ashe's company at Pittsfield, Massachusetts, the General Electric Company.

Another problem that we have mentioned in our report, but we have not exhausted the subject by any means, is sickness reporting. At the present time, unfortunately, the statistics of sickness, in the necessary details, are very meagre in this country. If you have read, as probably many of you have, the detail reports of the commissions which have been working on the subject of compulsory health insurance, you will have noticed, I think, the meagreness of real statistical data and facts upon which the reports are based.

Sickness statistics, to be of practical value, must consist of the following essential details: Sex, age, cause of sickness, duration of sickness, or the extent of the severity of the illness. Sickness statistics, comprehending these details, are almost entirely lacking today in this country. There are some data available in the statistical departments of certain of the relief and beneficial organizations connected with industries, but very little use has thus far been made of these data for practical purposes, and the reason for that, in part, is that the data are not properly tabulated and the causes of sickness are not properly codified. That is a part of the committee's work, to suggest how that work among these organizations can be done in a better manner.

In this report we have drawn from the Annual Reports of the Relief Association of the Employes of the Bethlehem Steel Company, to illustrate how the causes of illness should be classified logically. There is no reason why that should not be done because there is an international code for sickness, just as there is an international code for causes of death, and that international code for causes of death has been accepted by practically all the civilized countries and is in use by our own Census Office and by most of our cities. The need for these sickness-statistics compilations is evident from a brief experience of the Norton Company, of Worcester, Massachusetts. That company, by keeping records of their absenteeism, found 20 per cent. of all their absenteeism was due to sickness, and that on an average, two per cent. of their employes were continuously absent because of illness. That shows at once the economic importance of knowing just why these illnesses occur and what the causes are.

Another feature, which we have simply mentioned in our report, is that of the physical examination of applicants seeking positions.

Now, the proper kind of examination has been carefully worked up both by the Committee on Medical Research of the National Council of Defense, and by the Industrial Conference Board, and in our report we have introduced these two forms to illustrate what these two committees think are the minimum requirements for such an examination blank. We all, I think, have a general idea of what the main factors are which cause sickness and illness in industry. They have been classified under three main groups, namely, the individual, the industry itself, and the community. The individual is responsible, so far as his illness is caused by bad habits, and intemperance of any kind, either eating or drinking, by the use of drugs, too much tobacco, etc., or personal vice. The industry is responsible so far as it permits too much dust and dirt to be present in the factory, dust and dirt that can be prevented, too much heat, too much fatigue, or allows poisonous gases and fumes to be breathed by the employes, when such poisonous gases could be eliminated by proper protective devices; by tolerating infections, bad lighting, dampness, bad ventilation, etc. The community is responsible for sickness, insofar as the community does not, through its public health agencies, and by proper conduct of its public health officials, prevent communicable diseases that are preventable, and establish proper housing conditions, proper factory conditions, proper hours of work, and perhaps even proper wages. These are the general causes which may, and often do, lead to illness and absenteeism for which the community itself is primarily responsible.

Our committee, in addition to some of this general work, made an effort to get at some of the specific and concrete causes of illness and disabilities by accident, by sending out a questionaire to safety engineers, industrial physicians, welfare superintendents, and others, and we sent this questionaire to about one hundred different establishments, and we got thirty replies. Dr. Lauffer of our committee sent us a list of about twelve prominent causes of illness and disability, which we have incorporated also in this report. We are very anxious to get expressions from anyone present or elsewhere, to add to this list, because we feel that the more of this kind of information we can make available to industries, the further along we will get in preventing the absolutely useless causes of illness and injury.

I might say that in our report we have stressed disease this year, rather than accident, because accident, and the causes of accidents, have been very carefully codified by the so-called Downey Committee of the International Board of Workmen's Compensation and Industrial Commissions. This Board has been at work something like five or six years, and has brought about a very good standard of practice with reference to the codification of accidents. We feel if we can do the same kind of work for industrial diseases that Downey's Committee has done for accidents, we will have accomplished the main part of our duty in this Committee under this heading. I may add, also, that so far as deaths go, as I have previously stated, we already have an international list of the causes of death, and we know exactly how to codify these in a standard way, and we also now have through the cooperation of the various industrial life insurance companies, access to the so-called inter-company experience. That means that we have every detail of the causes of death from five of the larger industrial life insurance companies, and these deaths constitute fully one-third of all the deaths in the United States.

Further than that, very recently—it has now been in practice only three weeks—four of the larger companies, the company which I represent, the Prudential, the Metropolitan, the John Hancock Mutual Life Insurance Company of Boston, and The Life Insurance Company of Virginia, have agreed to telegraph to the Census Office each week the total number of death claims paid the previous week, together with the mean number of industrial policyholders exposed to risk. That furnishes the Census Office the best health index, based on mortality, that this country has ever had, and I am sure no other country has as good an index of the health conditions as these data will provide. I simply mention it because it is along the line of the work of our committee, and all experiments and experiences of that kind we hope to bring to the attention of this Association as promptly as possible.

VICE-PRESIDENT KINCAID: This paper is now open for discussion. As a manufacturer I will say that we have some familiarity with the subjects already touched upon by the chairman of the committee, and it seems to me that the prevention of disease should be a very live subject for all of us, because if we can succeed in teaching our people how to be healthy, we will have accomplished the greatest thing for which we have all been striving. I have endeavored, in talking to some of my friends who are doctors, to get them interested in the subject of prevention of disease. I believe the Chinese system is to pay a physician as long as he helps you, and to stop his salary when you are sick. If we could institute a similar system in this country and pay our physicians for keeping us well, perhaps they would study this subject more closely, and perhaps would not study the subject of medicine so seriously. It seems to me that there is a great deal which may be said on this subject, and I hope you will take hold of it earnestly. If anyone has anything to contribute, we hope he will do so promptly. The subject is open for your consideration.

MR. L. E. BARRINGER (General Electric Company): I have enjoyed hearing Dr. Crum's paper, as it is of great interest to me in connection with educational work. The report is entitled "Health Education," but I gathered the impression that this work is mostly what I would term "Health Protection." I think that the subject of health in either an educational or an industrial institution should be clearly differentiated between health protection and health education. The subjects the committee deals with, if they are administered by the school system for its children, or the corporation for its employes, constitute mostly health protection, and include the things that have been done for the welfare of groups of people, without the latter knowing exactly what has been done, and least of all understanding the reasons for certain rules and restrictions. For instance, substituting denatured alcohol for wood alcohol, and similar precautionary methods, safety devices, all sorts of protection against fire, methods of ventilation, proper humidifying of the air and the proper lighting are all methods of health protection, and not health education. I think, however, that is the first important thing to be done, and that this phase of health work has naturally gotten far ahead of health education. What Mr. Henderschott touched upon is more in line of health education, for instance, having women doctors teach personal hygiene to the young women employes of the New York Edison Company, and showing them ways in which they could improve both their efficiency and their health.

A lesson to drive home to each individual is the great importance of the individual *knowing* how to keep himself or herself well, and showing the connection between education and health and the ultimate chance of success. Very few people realize this. There is an inborn desire of every one to succeed in business, and you will notice in the advertisements in the papers that the question of health is coming to the front, and those people who cater to that inborn desire are offering health advice as an asset for success. For years I have seen advertisements, and still see them, claiming to give the secrets of proper speaking, character reading, memorizing, making money, and such things, and now we see whole page advertisements of the Life Extension Institute and others offering for a nominal fee to coach individuals in the proper care of health.

These advertisements, to my mind, simply mean there is that inborn desire on the part of every one to both succeed and keep well, and that is the thing that the public schools, the civic community and the corporation should teach the individual. It is not an easy task, and the question is how to get at it. It can be done by means of literature, but more often has to be done by some sort of personal instruction, as through the medium of doctors. I think very few people realize the importance of such things, speaking generally of employes in a large manufacturing plant, as proper ventilation at night, proper diet, proper dress and care of the teeth. If they do think of them they put very little connection between them and the daily job.

People are impressed with the life insurance statistics which show that of 100 men at twenty-five years of age, at the time they would have reached sixty-five years of age, eighty-nine are either dead, or totally incapacitated—something like forty-five dead and forty-four incapacitated and dependent upon others—and of the other eleven, one is well off, five have sufficient incomes, and five are still working for a living. A man wants to advance and succeed and does not want to die or to be incapacitated before he gets very far, and these are the lessons which must be driven home by health education. It is a question vitally connected with one's individual chance of success in any occupation, and it is a subject, which, as I say, should be driven home forcibly, so that every worker, who desires to avail himself of such knowledge, may obtain it.

CHAIRMAN CRUM: I think Mr. Barringer's point is well taken, but our committee takes the broader view, and that is that the employers need education as well as the employes, and perhaps in this report we have overstressed that need, but we have not forgotten the other needs. I wish that Mr. Ashe would give us a brief summary as to the experience of his company during the recent influenza epidemic, and just how they cooperated with the local health department in trying to check it.

MR. SYDNEY ASHE (General Electric Company): I realize it is getting late, and it is approaching the end of three sessions which have constituted a long and strenuous day's work, and I hope that you will all have patience enough to sit out the remainder of the meeting, because this subject of health education is really one of the most vital things we are concerned with at the present day.

I had the pleasure of being chairman of this committee for about four years, but, unfortunately, due to a rather strenuous combination of circumstances in the middle of the winter, I had to throw the burden on Dr. Crum, who was a member of the committee, which is probably the reason why the report of the committee was not officially printed in time. But, nevertheless, the committee has done a good deal of work, and I may say, for the benefit of all of you, that I think you will find that the new arrangement with Dr. Crum as chairman, will work very well, because as Assistant Statistician of the Prudential Insurance Company he has an enormous amount of statistical data available, in a very extensive library, and through very wide and extensive resources he is in a position to compile any sort of data that the Association may be interested in.

With regard to the point that Mr. Barringer raised, the committee has been thoroughly alive to the difference between health protection and health education, and in the committee reports of previous years, we have gone thoroughly into the different phases of health education. We have gone into the matter of health lectures, and use of company bulletins for the purpose of bringing to the attention of the employes important matters relating to health subjects. We called attention to the extensive campaigns that have been carried on by the Tuberculosis Association, and also the Association for the Prevention of Venereal Diseases, to the effects of bad lighting, bad ventilation, etc. I think those of you who are very much interested in this subject, if you look through the transactions of previous years, you will find the committee has really made some pretty valuable contributions on these things, not only that, but the suggestions have been put into practical form and worked out, so that you can get the benefit of the experiences of the committee through these previous reports as a whole.

But this year the Executive Committee wanted us to broaden out, realizing, largely as the result of the recent influenza epidemic, that there was an enormous amount of data that we should have, and I think that those who went through this epidemic and faced it and had much to do with it, realize the very great need for better systems of prevention than we have had in the past.

Dr. Crum has asked me to say just a few words about our experience with the influenza epidemic in Pittsfield, and I will be glad to do that, provided I do not burden you too much. In our city we have about 40,000 residents, and at the time when the epidemic was raging in other places, we felt that as Pittsfield was such a nice, comfortable, clean community, and we had so few cases, that there was not any very great danger. But, nevertheless, the cases kept creeping in, the doctors became pretty busy, quite busy, so much so that they became lax in the reporting of cases, and before we knew it, we had a very severe epidemic in the city. At one time, out of 6,000 employes, we had 2,000 out either sick or through sickness in family, and out of a population of 40,000 people in the city, we had 6,000 sick. This is indicative of what industries may have to face at some future time, and the need of preparing for these things.

The medical service and the nursing service in the city of Pittsfield practically broke down completely. An emergency committee was appointed, of which our manager was chairman, and he is a very capable man, and he drew around him in a short time the best people he could get in the city in the form of a committee to organize, really, the medical service and the nursing service of the city. We sent out a call among the girls in our factory for volunteers as nurses, and as usual the girls responded. We have a most wonderful lot of girls, and in any emergency the girls all come to our rescue. It was our own shopgirls who were willing to go in and nurse these poeple, and risk their lives. If you could visualize some of these acute, violent epidemic cases, which these young girl nurses had to handle, you would realize the risk which the girls took. We had only one bad case develop among the girls, and we were fortunate in not losing her. It showed us what a wonderful lot of women we had.

It devolved upon the works to take over the problem of the city. There were 200 girls who volunteered out of 1,000, and they were willing to go anywhere we sent them. We organized seventy-five of these industrial women, who had had a little nursing experience, put them under the supervision of our nurse in the hospital, a very capable woman. We had six automobiles in operation with twenty-five of the women on duty at night and fifty of the women on duty in the day time, and these automobiles were going continuously from place to place, and we took the meals out to these girls, as well.

The first case I was called in on one morning made a deep impression on me. They said there were two people dying in a house, and someone had to take some whiskey over there, as they needed some sort of a stimulant. I went over in an automobile, and in the back room was a boy of eleven years old dying of penumonia, and in the front room was a man, the father of the family, who was dying of pneumonia, and there was a little girl in the bed in the room where the man was dying. The mother of the house had died the week before, and the father had helped to carry her down from the rooms to the hearse, while the children were sick in the room. We had three nurses on duty. The doctor came while I was there. We worked over the boy—we did not have time to use medicine. The doctor said— "The boy will die at twelve o'clock and the man at two o'clock." The doctor knew that they had reached the critical stage. The boy did die at about twelve o'clock, and the first thing we did was to get the young children away from the home. We took them to a nearby home.

We called Government doctors in on the job, and as soon as we got the nurses out into the communities and into the homes as well as the doctors, so we could keep the people in bed, matters began to improve. The trouble had been that just as soon as a person would get a little bit better, although the flu had sapped the vitality of the person, they would get out of bed, and the result was that the vitality being low, pneumonia would set in, and the person would die in three or four days.

The fatalities among many of the patients ran up to 80 per cent—that is, 80 per cent of the people died who got pneumonia, and it seemed impossible to do anything with them. We started our work and 80 per cent was about the average fatality, but when we got our hospital service going, we brought that 80 per cent ratio down to about 10 per cent. We organized the whole town, organized a nursing service in every part of the town —of course it meant a great responsibility, and a great deal of effort and hard work, because you were up all hours of the night, the telephone repeatedly ringing at all times of the day and night and then, supplementing that, we started an intensive educational campaign through the papers. We got up large posters and ran them in the papers—"What to do until the doctor comes," emphasizing the need of going to bed and staying in bed—we felt that if we could only get the people in bed and keep them in bed, we could save them. That was effective among the classes of people who could read the papers, but there was a large class of foreign people who could not read the English papers, and it was among the foreign class that the highest fatalities ran.

In conjunction with that, the Committee told us to go ahead with additional hospitals, and we opened and equipped an open air hospital. We had beautiful grounds near the works—the Crippled Children's Home, where they had a cottage that contained bathrooms. We were told on Saturday noon that we had to put the hospital in operation, and by Sunday morning we had fifteen carpenters at work, making the necessary changes, and we had some hospital beds which we put in, we had a number of electric heating pads, and we ran in electric wires, and Monday morning early we went out into the town and organized our corps of nurses. We fortunately had a matron in town who had been graduated from a hospital as a nurse, and we drew her into the service, and we had additional nurses, and we equipped that hospital with the necessary hospital supplies, the necessary food, and we had telephone service installed, and everything else arranged for that was necessary, and, on Monday night at five o'clock, the first patient was taken into the hospital, and all that work was done within a period of forty-eight hours.

We had, I think, five children in this camp. At one time we had twenty persons in the camp, and of those twenty persons, all seriously ill, some would die inside of two hours from the time they went there. I never saw people die so quickly as those people did when they got this peculiarly vicious type of pneumonia. The open air treatment reduced the fatalities of pneumonia patients to 30 per cent, and if we had started ten days earlier, we could have saved more lives. The great thing that that experience pointed out to us is the necessity to have communities organized in the future for that sort of work. We may think that it will not occur again in such an extreme form, but it will. What will we do in the future to take care of a situation of this sort?

We have decided at the Works to take care of this problem in the future in this way—first, by working in conjunction with the local Red Cross, which we felt was the natural medium to work through, having them appoint a Calamity Section, which should be ready to handle emergencies. We could not expect Red Cross workers who had a couple of children to go into a home where people were sick with this critical illness when the danger from infection and contagion was so great, as they might communicate it to their own children. We are keeping up, as a result, the equipment of our open air hospital, and this equipment is going to be maintained in such condition that it can be used in the future on very short notice. In addition to that, we are keeping together as well as we can, this group of industrial nurses, and we are going to gradually increase the number of nurses, and we will see that these industrial nurses, from time to time, shall receive further training in nursing service.

Supplementing that, we have appointed a local health officer, who has absolute authority in connection with the health work in the city; that is, while he has committees working with him, he has authority to do prevention work and remedy bad sanitation. A great part of his job is to help in health educational work, to see that the proper health instruction is given in the school, and the proper health placards are posted, to go around and prescribe changes which should be made to conserve health, and to go into the homes and interview the people on health matters, and it is the job of this man to do everything he can to be ready for epidemics, and to minimize the causal conditions of sickness that come into the community; in other words, if an epidemic or anything of that kind starts in another community, we want to see that proper quarantine is put into effect, to reduce the danger of such sickness taking root in our city. We may not get another such epidemic in ten years, but some seem to think we will have another one soon.

In addition to this work, we must intensify our educational work. Those of us who handle works papers have occasionally run page articles on tuberculosis, and resuscitation, and first aid work—that is a part of the program of most company publications. We also have lectures along health lines, and in addition to that you have got to have a good, flexible, working emergency scheme. You have got to be familiar with statistics, such as Dr. Crum has pointed out, in order to handle this work.

It is a vital thing, and in the future we must give a lot of time and thought to it, and if we have not the time to give to it ourselves, we must have people in our organizations who can do these things, because when an epidemic, such as we had last winter, passes through any community, you cannot measure the damage that it leaves behind it.

While this country has done an enormous amount of work along the lines of health education through the Public Health Service in Washington and the Anti-Tuberculosis Association, there is still an enormous amount of work to be done in industry, and those of us who do not know how to make the start in doing the work, can get a great deal of help through the use of all kinds of health protection and health educational films, and, by availing ourselves of the literature and work of Surgeon Blue's department in Washington, where you will find the War Department itself is ready to help you, and that they have a great mass of material along the lines that we are discussing this evening.

While we can spend a great deal of time in talking about office schools, and apprentice schools, etc., if we do not have the proper system of health education in our organization, doing all we can to check the loss entailed by sickness, it will weaken the efficiency of these other things, and therefore, I make the plea that we all get on the job and see what we can do towards the advancement of this problem of health education.

CHAIRMAN CRUM: I was once on the local Health Board in Newark, New Jersey, and I know that health officials will do 100 per cent more if they feel they have the backing of the community, and especially of the great industries such as Mr. Ashe represents. It means everything to the health officer to know that he has the backing of the community, and it means everything to the community to know the health officer is backed up properly, not only by his assistants, but in a financial way.

Is there any one here who would like to add a word as to what his company is doing in the way of sickness prevention or health education? Anything that any of those present could give in the way of experience would add to the value of this discussion, and I am sure would be greatly appreciated. (No response.) I might add that it is my hope—I do not speak for the Committee—it is my hope that in the near future we will have in this country a good many pay industrial clinics—a great many more than we have today. I think not only will they be a great help to the workingman who is ailing and does not feel like going to a doctor and taking a day off and paying $2 or $3, but they will be a great help to such persons, not only in saving them from illness, in any given case, but also as an educative force teaching them the great advantage of giving quick attention to their ailments. I hope we will have industrial clinics in every important city, and today we have but very few. We are talking of establishing one in Newark, in the heart of that city, one of the most important cities in the country as regards variety of industries; but, as I say, we have not a pay industrial clinic there today, and there is great need for it. If there is no other discussion in connection with the report, we will bring our session to a close.

MR. HARRY A. HOPF (Federal Reserve Bank of New York): May I have a word? I was prevented from hearing the discussion of the report, which I understand is on health education, but I learned from two of my associates that no mention had been made of two factors which seemed to me to be of the utmost importance, namely, eyesight, and teeth. I think the time is coming when a great deal of attention will be paid to these two factors, because they have a great influence upon productivity, and harking back to what I said a day ago, concerning progress records, I think that the factor of the condition of the teeth, at least, will be made a subject of rating on the part of employers.

With respect to the work that should be done along dental lines, it seems to me that prophylactic work is all that can be expected and that the closest kind of cooperation should exist between the dental establishment in the corporation and the regular dental practitioner.

A well known life insurance company has disclosed some very interesting facts concerning examination of the teeth of its employes. As I now recall the facts, I think an average of something like four cavities per person was discovered through examinations over a period of several years. That means, then, that every one in this room, if we hold true to the average, has four cavities in his teeth at the present moment. The company also discovered quite a material percentage of abscesses, and while I am not entirely satisfied that the importance now being attributed to such conditions is justified, yet I do know, from many investigations, that a great deal of trouble is apt to arise from abscesses of the teeth as far as general health is concerned.

All these conditions should properly be made the subject of investigation by corporations, and they may be made to demonstrate a close connection with a dollars and cents policy, based on production.

Just one word more on eye tests, and then I am through. I would like to see the time come when, as a part of the medical examination for employment, a common-sense eye test will be given, one that will eliminate those who are color blind, or deficient in color sense, and those who, by reason of defects in the eyes, will greatly increase the error rate in any line of work in which they may be engaged. I have made some investigations concerning errors in the handling of operations such as sorting checks, in which, although on account of lack of opportunity to pursue the studies, I did not reach any definite conclusions, I nevertheless became convinced that the condition of the eyes was a very large factor in a heavy error rate established over a period of time.

CHAIRMAN CRUM: I understand that Montgomery Ward and Company have a dental clinic at their store and I wonder if Miss Shelton will not come forward and tell us how the employes feel toward that clinic.

MISS PENN SHELTON (Montgomery Ward and Company): I wish you had not asked me to speak on the question, because I have only been with Montgomery Ward for a short time. However, I can give you a few impressions I have gained. I believe they have two or three dentists, and when an employe is engaged, one of the first examinations is an examination of the mouth. They have a very competent nurse who makes a very close visual examination of the teeth. If later on any trouble develops, the employes are at liberty to go to the dentist, in fact they are urged to do so. All dental work is done on the company's time.

I have had the employes tell me, as one employe to another, how they feel about it. There was one girl who had a very severe toothache, and another girl said, "Why don't you go to the dentist?" She said that she had not thought about it, but she guessed she would go that day. Two or three days after that I met her and asked her how she felt. She said, "I feel better and will certainly go again if I have any further trouble."

Another girl, who had several cavities and abscesses—in fact her mouth was in very bad condition—went to the dentist for treatment. They do the work at cost and do it very thoroughly, but as I have said, all of this dental work is done on the company's time. I asked this girl how she liked it, and she said, "It was very fine, indeed; they have a fine dentist and I will have all my dental work done here after this." In that way you win employes' cooperation and loyalty, from their standpoint; another thing, by improving their health and letting them see the improved appearance of their mouths, you increase their self-respect and pride, and naturally they take a greater interest and pride in being an employe of your firm.

CHAIRMAN CRUM: We have with us this evening Dr. Dale, of the Leroy International Health Research Institute, of Chicago. Dr. Dale will give us a few facts regarding proper diet.

DR. DALE (Leroy International Health Research Institute): Diet is a very important factor in regard to health. I am connected with an institution which makes a specialty of dietetics. Most of you people, no doubt, are interested in industrial lines. It may be that some of the things I will tell you would not be applicable in your cases.

Some of you, perhaps, have cafeterias in connection with your institutions, in which you feed the employes. In those restaurants various teachers of domestic science, people who have made a study of the various combinations of food, may be employed to fix the calorific value of foods. But from our standpoint, we teach dietetics differently. We believe that the health of an individual depends to a large extent, on what that individual eats. We teach the theory that health is a harmonious functioning of three planes of existence, that we have physical, mental and spiritual phases of life; that the physical depends on exercise, diet, an fresh air. In all of your institutions, no doubt, you have taken some of these views into consideration, but diet needs special attention.

We firmly believe that the time is coming when meat will not be eaten, not only from the fact that it contains toxins—impure substances that are harmful to the body—but also from the spiritual consideration. In the old days we thought we could eat anything at any time, and still stay well.

Most of us labor in the belief that three meals a day are essential to health. We realize now, however, that it is important that we do not eat when we do not feel well. Perhaps some of you who have attended banquets do not agree with that, but it is a scientific fact. All the doctors, all the M. D.'s, the osteopaths and all that are connected with the health work of the country, are giving more and more attention to what a person should eat, and the heads of great institutions should do that also.

Two years ago I visited an institution in Philadelphia in which meat had been eliminated from the dietary. The health of the people had improved wonderfully. At that time they hired a diet specialist, not one who believed that three meals a day was the proper thing, but one who understood the needs of the human body. We must take into consideration that the amount of energy a person expends is terrific, sometimes. If you have been working very hard for a whole day, and then go and eat a hearty meal, you would at once find that something was wrong. You have put into your stomach, haphazardly, a mass of food you have not the energy to handle, and what is the result? It is the first step towards sickness. That is the point we are considering. We are beginning to teach people what they should eat, how they should eat, and why they should eat, and when they should not eat. No one who is tired should eat for the time being. You should rest, and recuperate, else how will you get the energy value from food, if you have not the energy within you to change it and assimilate it? That is one point.

Another point—if you are angry or excited, or worried, you are using energy in your brain that cannot be used in the stomach or digestive system. Another point is the matter of fresh air. If you have not sufficient fresh air to oxidize your food, then you cannot remain healthy.

If we are employers of a large number of people, we must realize their health, to a certain extent, depends absolutely on the way we treat them. We, as employers, are responsible for the health of a large number of our people from the health culture viewpoint. It is our duty to point out to them the things which they should do to preserve their health, and it is admitted that dieting stands at the head of the list of these things.

It is the simple things regarding dieting that people need to have impressed on them. Therefore, from the standpoint of the employer, I think it would be well for every employer who has a large institution, to hire some one to take charge of this matter, some one well versed in regard to the ways of eating, to teach the people how to eat.

You can go into any of the restaurants or cafeterias in Chicago and see people gulp food down just as fast as possible. Why? Because they are rushed with business and with cares and worries, and have not taken the time to learn how to eat.

Any employer who is successful will sooner or later reach the conclusion that he must look out for his stomach, and his intestines, etc., if he wishes to remain healthy and strong.

In the institution with which I am connected, it is our privilege and duty to attend and give advice to various employers all over the country. We have been consulted by many people who have been urged to try various systems of exercises, or try various systems of healing, so-called, but whose main trouble is wrong habits of eating in 90 per cent. of the cases, and it is usually a simple matter to break up these wrong habits, after they understand thoroughly that food can be combined harmoniously in the stomach, and that they should not overeat; that they should not live for the sake of eating, but eat for the sake of living.

As soon as they reach that conclusion, you have a person well on the road to health.

I am not a fanatic on the dieting proposition, even though it would be a good plan for every one of us, for one day in the week to skip one meal or two meals, drink more water and get more fresh air.

About fifteen years ago I was a bookkeeper connected with a large iron and steel firm in the east. I was supposed to have Saturday afternoon off. I invariably found, when I missed my dinner on Saturday, I could do more efficient work. Why? Absolutely because I had not used the energy which I should put into my work, to assimilate food. It was a tax on my energy to get rid of the food for the time being.

It behooves every one of us to give time and attention to this matter, and as employers it is only a question of time when we will have to reach the stage where we must absolutely consider the needs of the people, and where we must teach them, and now it is up to each one of us to get knowledge for ourselves. We have had some splendid discussions in regard to the care of the teeth. Closely connected with the care of the teeth is the habit of eating, and if you are eating soft food that slides down your throat, simply washing everything down, eating when you are worried and exhausted, and going through the whole day, using up terrific amounts of energy, and eating a big meal at night, you wake up in the morning with a bad taste in your mouth, simply because you have overloaded your stomach with food.

This is a question we must consider, and consider it for the sake of developing business in a more efficient manner. We have had some most interesting discussions in regard to sickness, and one of the great causes of sickness is overeating. If we could put into our business, or hire someone thoroughly versed in regard to the combinations of food, how it should be used, why it should be used, then we have accomplished a great deal.

We have plants today which make it their business to hire physical directors at certain times of the year. We have one plant in Philadelphia where a gymnasium was built on the roof, and in the summertime they hired a physical director, one who was also versed in regard to the use of food, fresh air, and exercise and all those things, and he taught the people the things about which I have been talking, and the efficiency of the business increased wonderfully. The president of the company gave me a report, and said—"Just from hiring that one man"—he absolutely had made $5,000 more out of his business.

This problem in regard to health we have to consider from two angles. One is that we have to consider it with regard to ourselves, and we have to consider it with regard to our employes. And, merely speaking from the dietetic standpoint, I simply ask each one of you to get in touch with some laws of dietetics, and give your time and attention to the study of them, and realize that you eat to live and not live to eat, and you will find as a result greatly increased physical efficiency in every conceivable way.

CHAIRMAN CRUM: The Society for the Prevention of Tuberculosis have prepared a placard for the health education of children. There are something like fourteen points in it, and it includes deep breathing, cleanliness, care of the teeth, no coffee for breakfast, etc., a kind of health program for the youngster to follow out each day, and I understand it is working excellently in some communities where it has been put across in a very effective way.

Are there any more comments or remarks under the heading of this committee's report?

MR. HOPF: I want to call attention to the work of the American Posture League, and I suggest that those interested in the subject of posture and its effect on production, may secure some excellent literature as well as charts from the League. The office of the League is located in New York City, and I am sure that those who have not looked into the matter of posture in relation to output will be surprised to see what has been developed through the work of the League.

Just one point more. I have been profoundly convinced, since hearing the previous speaker on the subject of eating habits, that we are really very inefficient in coming to an establishment such as this hotel is to spend nearly a week here in our discussions, and in the meantime we are meditating against our efficiency along discussion lines by eating the heavy meals furnished by the restaurant downstairs.

I suggest for the consideration of the committee which will have charge of the preparations for the next convention, which I understand is to be held in New York, that a plan be worked out whereby several menus can be arranged, and that we all repair to some restaurant where we can procure food that is prescribed by the expert, and to that extent be very much better off, not alone physically, but also mentally. I am willing to confess I have been one of the sinners this week.

CHAIRMAN CRUM: I am glad to call attention to the work of the American Posture League. If any one wants information about the League, if they will write to Miss Jessie Bancroft, No. 1 Madison Avenue, she will supply it. She has also started a splendid work in connection with the American Cooked Food Service, Inc., which delivers prepared meals from a central kitchen—there is one station in New York and another station in Princeton. These movements are important branches of health work, dealing with posture and food.

VICE-PRESIDENT KINCAID: I am sure this excellent paper and the suggestions we have had on dentistry, the eyes, and diet ought to start us all on the right road. At least those who are here. If the seed is planted among our members we can make it grow and multiply.

I am not here to advertise Dr. Dale, and I am not going to tell what institution he is connected with, but I am here as a living example of the efficiency of his health recommendations, because if I am able to measure myself, I think my efficiency has increased about 100 per cent in the last two months, and it is due to a change of diet, and a study of diet and health suggestions. If I can make a gain of 100 per cent in two months, possibly by the time of the next convention I can demonstrate to you that I can increase my health 200 per cent. Whether I can will be for the rest of you to judge. I hope to be an example at the convention, of the efficiency of the right kind of diet and exercise. I think this is a vital subject. I think if we attain Prohibition, and get rid of excessive drinking this year, it will be a very nice thing to take up the question of excessive and wrong eating next year. We should begin a study of diet with a view of increasing our efficiency through right eating; by the way, there is another feature, which is most interesting in connection with this question, and that is the cost of living. In the case of most of us the cost of living could be reduced by about 50 per cent, which is not a small item. This could be brought about by attention to diet and to selection of proper kinds and amount of food for consumption.

We have come to the end of our program, but before closing I want, on behalf of the Association, to thank Dr. Dale for visiting us this evening, and favoring us with the remarks he has made.

We will now stand adjourned until tomorrow morning at 9:30 o'clock.

REPORT OF COMMITTEE ON HEALTH EDUCATION

The subject assigned this committee to investigate and report upon at this meeting was "To codify the principal sources of sickness, death and injury in the industries of the United States and to suggest remedies." Obviously this is too large a task to complete in one year under the most favorable conditions and the committee have had to work under quite unfavorable conditions this past year both on account of the war during 1918 and the influenza epidemic which raged with such unprecedented violence in the United States in the latter part of 1918.

The influenza epidemic, however, has taught us how necessary it is to prepare in advance for every emergency, at least so far as is humanly possible. It has taught the necessity of close cooperation at all times of industry with public health agencies so that when an emergency, like an epidemic, arises quick and effective action can be taken to check and so far as possible control its spread. Employers should take a lively interest in the local department of health, for upon its efficiency the prevention of preventable disease is most largely dependent. As a corollary to the foregoing statement employers should also take a lively interest in the State and Federal Departments of Health, for the most effective disease prevention work depends upon the close cooperation of Federal, State and local departments of health. Industry is vitally interested in disease prevention, for unnecessary illness is an important but at present unmeasured factor in production cost. The Norton Company, of Worcester, Mass., reports an average absenteeism of two per cent from sickness, a little less than seven days annually per man. In that company sickness represented twenty-seven per cent of the total absenteeism. More concrete data of this kind is wanted in order to convince our industrial managers that efficient disease prevention agencies react favorably upon business, for the health of the employe has real economic value.

Unfortunately in this country we have thus far comparatively little accurate information on the subject of disease prevalence in industry with the necessary distinctions of age, sex, cause, duration of illness, and specific employment. Until such information is made available through accurate records of absenteeism kept by employers, it will be difficult, if not quite impossible, for this Committee or any other agency to codify the causes of sickness in industry and suggest the most effective remedies therefor. With the rapid extension of the employment manager idea it is to be hoped that better records of absenteeism will soon be available and on a rather large scale so that sickness statistics for employes can be tabulated and analyzed to the immediate benefit of both employers and employes.

It has not been possible for this committee to carefully survey and analyze the available sickness material and incorporate the results in this report. We have kept this work in mind, however, and we believe that there is a considerable amount of experience embodied in reports of cooperative or beneficial associations of employes. It is suggested that an important part of the work of this committee next year should consist in the bringing together of the best of these data and the careful analysis of the same. To mention only one such experience we may direct attention to the Relief and Beneficial Association of Employes of the Bethlehem Steel Company, South Bethlehem, Pa. The annual reports of this Association have thus far been presented without any logical order in the listing of the diseases, but, correcting that defect, the tabular report for the year ending May 31, 1918, is as follows:

ANNUAL REPORT RELIEF AND BENEFICIAL ASSOCIATION OF THE EMPLOYES OF THE BETHLEHEM STEEL CO.

YEAR ENDING MAY 31, 1918.

SICK BENEFITS PAID

Cause of Sickness	*No. of Cases*	*Amounts Paid*
Epidemic Diseases:		
Typhoid Fever	66	$2,887.86
Malaria	4	95.72
Smallpox	1	15.00
Smallpox Vaccination	1	8.57
Measles	13	206.99
Scarlet Fever	4	123.58
Diphtheria	7	108.57
Influenza, La Grippe, Catarrhal Fever	306	4,602.73
Dysentery	22	529.81
Erysipelas	6	87.13
Chicken-pox	1	6.43
Mumps	11	135.00
	442	$8,807.39

Cause of Sickness	*No. of Cases*	*Amounts Paid*
General Diseases:		
Blood Poison	9	$298.56
Pulmonary Tuberculosis	46	4,862.85
Cancer (specify location)	7	626.43
Tumor (specify kind and location)	7	144.29
Rheumatism	156	5,214.96
Diabetes	3	263.55
Leukæmia	1	20.00
Anæmia	3	65.71
Autointoxication	2	34.28
	234	$11,530.63
Nervous System and Organs of Special Sense:		
Spinal Meningitis	2	$93.57
Infantile Paralysis	1	65.00
Apoplexy	1	4.29
Paralysis (specify)	11	1,214.29
Palsy	2	30.00
Insanity (specify)	8	992.15
Neuralgia	5	38.08
Vertigo	4	144.29
Nervous Prostration	26	1,028.54
Eyes, Cataract	1	81.43
Eyes, Sore	25	638.01
Ears, Otitis Media	4	56.43
Ears, Sore	2	55.00
	92	$4,441.08
Circulatory System:		
Myocarditis	7	$284.29
Heart Disease (specify)	16	1,222.13
Piles	10	129.99
Varicose Veins	9	142.86
Glandular infection (specify)	7	290.71
	49	$2,069.98
Respiratory System:		
Nose, Adenoids	2	$37.15
Nose, Sore	4	79.28
Bronchitis	159	3,286.18
Pneumonia	135	3,482.71
Pneumonia, Inflammation Lungs	13	172.14
Pleurisy	34	560.73
Asthma	14	699.89
	361	$8,318.08

Cause of Sickness	*No. of Cases*	*Amounts Paid*
Digestive System:		
Disease of Mouth, Infected Mouth	1	$20.00
Disease of Pharynx, Quinsy	6	45.00
Disease of Pharynx, Sore Throat	13	179.99
Disease of Pharynx, Tonsillitis	49	718.57
Indigestion	3	20.71
Gastritis	85	2,274.58
Stomach Trouble	55	1,438.71
Colitis	16	278.56
Appendicitis	98	3,230.70
Rupture	62	1,984.29
Intestines (specify)	45	1,163.72
Gallstones	8	412.57
Liver Trouble	5	411.60
Jaundice	7	156.43
	453	$12,335.43
Genito-Urinary System:		
Nephritis	18	$303.58
Kidney Trouble	18	499.29
Bladder Trouble	12	465.74
Orchitis	16	207.15
Hydrocele	3	131.42
Testicle	1	11.43
	68	$1,618.61
Other Diseases:		
Abscesses	57	$1,120.70
Boils, Carbuncles	26	270.70
Cyst (specify)	2	12.86
Dropsy	3	205.00
Eczema	20	360.02
Felon	2	5.72
Fistula (specify)	9	275.00
General Debility	20	3,071.29
Lumbago	28	911.42
Mastoiditis	2	43.57
Periostitis	2	215.00
Sore Feet	3	49.29
Ulcers	15	514.29
	189	$7,054.86

Cause of Sickness	*No. of Cases*	*Amounts Paid*
Violence:		
Frozen Feet	2	$100.00
Heat Prostration	5	57.14
Poisoning, Acid	2	40.00
Poisoning, Ivy	1	5.00
Poisoning, Powder	7	92.86
	17	$295.00
Grand Total	1,905	$56,471.06

This classification of diseases should be made more specific in certain instances. For illustration, the cancer cases should be located anatomically and the same is true of glandular infection, intestinal disease, cysts, fistulas, etc. We have no doubt also that if specifically requested to do so some of these associations could furnish more detailed statements showing the causes with distinction of age, sex and whether the sick person was an employe or dependent member of the employe's family.

In the report of the Ohio Health and Old Age Insurance Commission, 1919, pages 64-96, will be found quite a comprehensive statement and analysis of disability rates and distribution. This study was based upon data of a selected group of benefit associations in the United States. No attempt is made in this study to deal with particular causes of disability, the main emphasis being placed upon distribution of durations in days of the disabilities taken in the aggregate. In order that preventive remedies may be effectively applied we require knowledge of the causes of disability with distinction of age, sex, specific occupation and duration or severity of the illness or injury. Data for this country in this detail are at present almost wholly lacking.

In a general way we of course know what are the principal factors causing sickness and on this point we quote as follows, also from the report of the Ohio Health and Old Age Commission.

The Factors Causing Sickness

"Three factors are clearly responsible for sickness—the individual, the industry and society.

"The individual causes sickness to himself by carelessness and recklessness; by intemperance in eating and drinking; by the use of intoxicants, drugs and tobacco; by personal vice.

"The hazards of industry are dust, dirt, heat, fatigue, poisons, bad air, infections, bad light, dampness, inactivity and weather exposure.

"The community is responsible for the spread of communicable diseases. Filth diseases are due to community laxness. Tuberculosis can be checked only by community action. Much of the failure to prevent health hazards of all kinds goes back to the failure of the community to properly educate children in health matters. A great deal of sickness is due to the failure of the community to enforce proper standards of housing, proper hours of labor, proper conditions for work and a living wage.

"One or more of these causes of sickness are generally at work. While some diseases are almost entirely attributable to individual vice such as venereal diseases; or to the community, as typhoid; to industry, as lead poisoning, the great bulk of diseases is due to causes arising from a combination of individual, community and industrial causes.

"The worker lives in three distinct environments—his home, his place of work and his local community. In his home, conditions affecting health are within his control, except so far as the character of the housing which he can afford may not enable him to live decently. In industry, such matters are outside the control of the individual worker, while in community health matters, the individual is affected by conditions for which the community as a whole is responsible."

As an essential aid in the prevention of disease and injury we recommend a wider use of physical examination of applicants. These examinations should not be for the purpose of rejecting such applicants as are found to have minor physical ailments or impairments but rather as an aid, to such applicants who should so far as possible be assorted by the employer and given such work as they are respectively best fitted physically to do. Such examinations would also make it possible for the employer to suggest how the employe could, in many cases at least, take such precautions as ultimately would remove the ailment or impairment.

The following physical examination card (Form A) would

PERSONAL *NAME* | *HOME ADDRESS*

AGE Single / Married | Widowed / Divorced | Usual Occupation | Religion: Protestant | Catholic | Jew | Other

BIRTHPLACE

	TOWN OR VILLAGE	PROVINCE OR STATE	COUNTRY
of applicant			
of his father			
of his mother			

RACE White ____ | Negro: Black / Mulatto | Near White ____ | Indian: Full Blood / Mixed Blood | Chinese / Japanese | Other | NATIVE TONGUE OF MOTHER

PHYSICAL Weight: Nude ____ lbs. / Clothed ____ lbs. | Height: Standing ____ cm. / Sitting ____ cm. | Arm Span ____ cm. | Chest: Full Inspiration ____ cm. / Full Expiration ____ cm. | Girth at navel ____ cm. | Lung Capacity

Foot Length, L: ____ cm. | Flat Feet Yes / No | Hand Grip L / R | Missing Parts Hand: L / R | Leg: L / R | Fingers: | Eye: L / R | Totally Blind | Chest Pilosity: Absent / Normal / Very hairy

Eye Color: Blue ____ | Blue with yellow spots / Blue with brown spots | L. Brown / D. Brown | Hair Color: Albino / Flaxen | L. Brown / D. Brown | Black / Faint Red | Bright Red / Brown Red

MEDICAL Pulse (Standing) | Vaccination Scars Yes / No | Hearing L / R | Vision L / R | Color Sense Red / Blue | Green ____

Nasopharynx | Goitre?

Lungs | Tuberculosis?

Heart and Blood Vessels | Varicose Veins?

Abdomen | Hernia?

Genito-Urinary System | Hemorrhoids?

Nervous System | Spinal Curvature?

Any serious disease? | Any serious operation? If so, when? Why?

Muscular Development Very Strong ____ Normal / Very Poor

Teeth X Missing O Decayed																	
	Upper	8	7	6	5	4	3	2	1—1	2	3	4	5	6	7	8	Number
	Lower	8	7	6	5	4	3	2	1—1	2	3	4	5	6	7	8	Date of Exam.

appear to fill every reasonable requirement, but additional information could readily be put on the back. This standard form for physical and medical examinations is recommended by the Committee on Race in Relation to Disease of the National Research Council.

The next blank (Form B) is the medical or physical examination form used by the General Electric Company and is identical with that standardized by a Committee of the Industrial Conference Board.

Causes of Disability and Suggested Remedies Therefor

As a part of the work of the committee an attempt was made by means of a questionaire to bring together in convenient form, some of the causes of disability among employes and the successful remedies which had been applied. More than 100 questionaires were sent out to industrial physicians, safety engineers, Superintendents of Welfare Departments, etc. The final results of the inquiry were not as satisfactory as expected, but we feel that the effort has been well worth while. We submit herewith the gist of the replies received as a result of this somewhat extended inquiry.

Infections from Oils.

While engaged in the manufacture of cutting lubricants in Philadelphia, we found that operatives using lard oil and compounds thereof, in machine shops for a cutting lubricant, were very subject to infections on their hands and arms, which resulted in pustular eruptions, boils and carbuncles.

We sterilized the lard oil with heat and added quantities of phenol sufficient to maintain it antiseptic, but we found that the addition of the phenol in quantities sufficient to effect the desired result caused other difficulties in the way of phenol poisoning and local burning.

Careful investigation of the source of the raw material disclosed the fact that much of the so-called lard oil was derived from the bodies of horses, which were killed accidentally, or died of disease or old age, and came into the compounding plant in a highly infectious condition.

Notwithstanding the fact that these oils were carefully sterilized in the compounding, it was found that various oil soaked

FF-433 25m 3-8-18

MEDICAL EXAMINATION

Name........ Age........ Wt........ Ht........ Serial No.

HEAD AND NECK: Evidence of previous injuries?........

EYES: Vision (Snellens) R........, L........ Wears glasses?........ **EARS:** Hearing (Ingersoll) R........, L........

MOUTH: Tongue........ Throat........ Teeth collectively, Good—Bad........

LUNGS:........

HEART:........ *Pulse........ *Temperature........ *Blood pressure........

ABDOMEN:........

Canals: Inguinal........ Size of external ring: R........ Fingers, L........ Fingers........ Femoral........

Umbilical ring........ Genito-urinary organs........

Skin disease, Yes—No........ Scars from operation or disease........

EXTREMITIES: Hands and arms........ Joints........

Feet and legs........ Varicose veins........ Ulcers........

*Reflexes........

SPINE:........

GLANDULAR SYSTEM:........

Hemorrhoids, Yes—No........ Fistula, Yes—No........

APPEARANCE, That of temperate person? Yes—No........ Scars or evidence of syphilis? Yes—No........ Vaccination scar? Yes—No........

Nervous temperament? Yes—No........

GENERAL CONDITION OF BODY: Good—Fair—Bad........

DISQUALIFYING DEFECTS:........

Accepted, YES——NO........ (Signed)........

* Record to be made at option of examining surgeon.

Date........, Examining Surgeon

points about the plant, such as barrels, floors, posts, tanks, wipers, etc., retained infected portions of oil, which always managed to reinfect the material which had been compounded, and which always seemed to come in contact with the old putrid material, however indirectly.

We found that careful selection of actual lard oil lessened the number of infectious cases reported to us and that where the operatives washed and scrubbed their hands and arms with a liberal use of soap immediately on quitting work, or before going home, the difficulty was overcome almost completely, but it is probable that so long as animal oils are used for cutting purposes, where the hands of the operative are always drenched and where the probability of tiny scratches and cuts is very large, there will always be cases of infection.

In the months of July and August, 1918, we had in our hospital a large number of staphylococcus infections and carbuncles, ranging in size from one-half inch to one and one-half inches in diameter, situated on exposed areas, as necks, faces, arms, and hands.

These cases were coming in so frequently from the departments where oil was used as cutting compound in boring, screw machines, and automatic lathe jobs, also oil quenching in heat treating of steel, that we thought it advisable to have the oil examined for bacteria.

We found that the oil contained pus organisms in large quantities, but more especially the staphylococcus.

We arranged for the oil to be filtered and treated with an antiseptic solution (Cresylone), and supplied the men with bichloride of mercury soap, which reduced our infections very materially.

Overcoming of Bromo-Seltzer Habit.

In a cigar factory in New Brunswick the practice of using bromo-seltzer had become so common that the health of a large number of women employes had become seriously affected. The management substituted bi-carbonate of soda and marked the bottles which contained the substitute with different labels. "Headache Medicine," "Nerve Medicine," etc., and thus gradually cured the women of the pernicious habit of dosing themselves with bromo-seltzer.

The women did not understand that the substitute was a perfectly harmless and innocuous substance.

Faulty Ventilation.

A large factory, engaged in the manufacture of a form of munitions and employing over 5,000 women and girls, became seriously disturbed through something which appeared like an epidemic or an attempt at deliberate poisoning of employes. In some work-rooms the employes got rather suddenly sick, some fainted, some had nausea and vomiting, and a considerable amount of hysteria spread through the balance of the workers. Such instances occurred several times in a period of five or six weeks in the late spring. City health authorities and other investigators were unable to reach a solution until someone complained about the ventilation. However, the works was entirely air-conditioned, this being a requirement of manufacture. It was necessary that at least sixty per cent relative humidity be maintained. An analysis of ventilation showed that in order to make good, various features had been seriously overdone. The records of recording thermometers and humidiometers were reviewed and it appeared that on the days in question, temperatures had run from 75° to 88° with the wet bulb thermometer at 70° and above. The company acted on the suggestion that temperatures be not allowed to rise above 72° or relative humidity to register over 70 per cent. The result was that not only did the peculiar affliction disappear but there was an immediate increase in output of approximately 10 per cent, which could not be traced to other cause than the bettering of ventilation.

Poison Cases from Use of Shellac and Varnish.

This factory had a number of poison cases from the use of shellac. Upon investigation it was found that wood alcohol was used in the making of this shellac. The danger of possible blindness from the use of wood alcohol—either taken internally or from fumes—was pointed out, but it was claimed by foremen that the mixture was essential for the use of pattern, as it dried quicker. Unbeknown to the foreman, denatured alcohol was gradually substituted in the factory for wood alcohol. No objection arose. At the end of a year a complete substitution was made, it served the purpose equally well, a dangerous menace was eliminated and a saving of $2500 was effected.

In another factory poisoning resulted from the use of a certain new varnish. Upon analysis, nothing poisonous was found in the varnish, so the factory went back to the previous varnish, which dried slower. After a time it was noticed that the men washed the varnish from their hands with gasoline. The hands became cracked and infection resulted. A tub of soapsuds was placed where the men washing their hands could use the soapwater after the gasolene. They were able to return to the use of the former varnish without any infection whatsoever developing.

Use of Colored Tablets.

In a certain Works Hospital where it had been found convenient to administer salicylate of soda to eliminate pain, it was found that employes objected to coming to the hospital because the doctors always gave them the same white tablets, so the same material was ordered in different colored tablets to be taken at various intervals, and the men feeling they were receiving something different, were satisfied.

Pin Wounds and Infections.

When I first went with the institution we had a great many pin ticket wounds, and I think the large majority were followed by infection, and some very severe. Owing to the small wounds employes paid very little attention to the wound until it in some cases produced a very ugly infection. From the lessened use of these pins the infections have been materially reduced.

I have found that by printing a large card of instructions as to everyday life, attention to fresh air, regularity as to intestinal tract, drinking water, less coffee, deep breathing, etc., has done much good. The card is hung in a prominent place in the office. Coming personally from the doctor in charge helps to impress. Many patients apply for things that need little attention which gives a careful man a chance to observe their general condition and advise accordingly. Many patients are helped more and are more impressed by giving them a prescription and let them get it filled. They realize you are not a mere pill dispenser.

Dust Elimination Cement Works.

In the course of a study of the effects of inorganic dust on the health of workers a cement plant was investigated.

This was done with the hearty cooperation of the owner. In this industry which is exceedingly dusty owing to the fact that the dry process was followed and no attempt was made to reduce the amount of dust, it was estimated that an enormous amount of material was annually lost. The economic waste as well as the possible danger to the health of the men appealed strongly to the employer. He installed an equipment which practically did away with the free dust and estimated that in two or three years the cost of the equipment would be paid for by the amount of material saved.

Danger from Open Case Tuberculosis.

In the course of an investigation of the Ready Made Garment Trade the following condition was noted:

A small sweat shop occupying one room contained five workers; one of these, the presser, worked at a table in a dark corner of the room. The man presented the appearance of one in the advanced stage of pulmonary tuberculosis. All about the table at which he worked there was fresh and partly dried mucopurulent sputum which the man constantly trampled under foot. An examination of this man revealed extensive pulmonary disease and his sputum contained numerous tubercle bacilli.

It is hardly necessary to emphasize the danger to which this man's working associates were exposed confined as they were in a small illy ventilated room.

Hazard from Carbon Tetrachloride Fire Extinguishers.

Recently two deaths were caused at the Portsmouth Navy Yard as a result of using a carbon tetrachloride fire extinguisher in a small confined compartment in a submarine under construction. Orders had been issued that no work should be done with the electric or the oxy-acetylene torch unless the workmen were provided with carbon tetrachloride extinguishers. During the conduct of the work the workmen's clothes took fire from sparks and the helper used the extinguisher as he had been instructed. As a result both the workman and his helper were seriously "gassed" from fumes, presumably consisting of chlorine liberated from the extinguishing fluid due to the breaking up of the fluid when striking burning clothing. This exposure to fumes induces pulmonary disturbances and in the present instance resulted in death. None of the burns received either by the workman or his helper were of sufficient extent—even though of second or third degree—to cause death in the estimation of the surgeons who attended the case.

Elimination of Fumes by Hoods.

Occupants on the sixth floor of a building were troubled by fumes from cyanide tanks used in plating processes by occupants of the fifth floor. While this condition was not wholly to blame for the headaches and nausea that occurred on the sixth floor, it was a large contributing factor. It happened, however, that on the sixth floor there were numerous heaters used with open flames during cold weather, which, together with gas furnaces for baking of lacquer, seriously vitiated the air and to such an extent that the condition was complained of to the State Industrial Commission. The use of hoods on both floors completely eliminated the difficulty.

New Hazards in Electric Arc Welding.

In this connection we may also call attention to an important article entitled "New Hazards in Electric Arc Welding" in the Bulletin of Safety Institute of America, for February, 1919, by Alfred W. Jansen, Safety Engineer, New York Navy Yard. Mr. Jansen gives details of an interesting experiment with electric arc welding in confined places with and without the surfaces being red-leaded. The experiment demonstrated that workmen are more seriously exposed to burns from the ultra-violet rays when the welding is done on or near red-leaded metal surfaces. The conclusion was that all such welding should be done before the surrounding surfaces are red-leaded.

Antimony Poisoning.

In another factory a Dermatitis and poisoning resulted from the handling of powder containing antimony. Careful cleansing of the exposed parts with a germicidal soap, 1% mercuric iodide, was effected and all further trouble was eliminated.

Yellow Curtains Cause of Illness.

There was a condition on the third floor of one of our large manufacturing buildings where many girls and some men were employed on small work, running small lathes and small machines. The windows in this building had been curtained with curtains of a straw color, which is so familiar in factory practice. It was noted that as soon as the spring months had gotten well started we had many cases of nausea and vomiting from this department. The women were peculiarly susceptible and many of them were out for one or two days at a time. This usually took place on bright sunny days. It was finally decided to change the curtains to a dark green. This was done and the trouble ceased immediately. We have had no trouble since changing the curtains. These yellow curtains were the cause of the loss of considerable time by the operatives in this department. It is now the practice in the Works to install dark green curtains wherever curtains are indicated.

Method of Handling Traumatic Amputations of Fingers and Thumbs.

In connection with the attached questionaire from The National Association of Corporation Schools, there come to my mind two suggestions which might be valuable for men doing industrial work.

One is the method of handling traumatic amputations of fingers and thumbs. Where a finger is amputated by a square cut, and the end of the bone is not protruding beyond the soft tissue, it is usually unnecessary to do any operative work. A stump that is longer, and just as useful, can be obtained by simply cleaning the wounded end of the stump of the finger or thumb, and covered loosely with strips of adhesive tape, changing this dressing every two days. This does not make quite as elegant a stump, but in most cases it makes a more useful stump for working men, as it saves at least ¼" of the length of the finger.

The second is the use of small tin splints so fashioned as to curve over the end of the finger, and protect it from bumps. I have had a number of cases of amputations or severe injuries without amputations, in which no time at all was lost, on account of the use of such protective splints.

Method of Removal of Small Foreign Bodies from the Fingers.

Small pieces of glass, steel, and brass shavings often become embedded in the fingers, and are difficult to find, blood obscuring the field so that distinct vision is impossible. In the first place unless the foreign body is very readily seen no attempt is made to probe for it, but one of the local anesthetics is injected immediately. We have no difficulty in shutting off the sensation entirely so that quite an extensive dissection can be made if necessary. Make a free incision through the skin at least ¾" long. Do not try to work through a small opening as this only makes the search more difficult and requires a greater length of time. After making a free incision it is possible, by grasping the finger between your thumb and first finger when placed on each side of the injured member, to spread the skin apart, and also to control hemorrhage absolutely. If you remember that the main arteries of the fingers run by the side your pressure will compress these against the phalanges and a dry field is obtained. It is possible in this way to carry your dissection actually down to the bone if necessary without getting into troublesome bleeding. The search is then continued until the fine particle is found and removed. A gauze pressure after removal is all that is necessary to control the bleeding; later a simple Dichloramine-T dressing is put on. The Dichloramine-T gives us the most satisfactory results in the checking and preventing of infection. We use it routinely.

The above method is of course perfectly simple and in accordance with our anatomical knowledge, but calling attention to it may be of some use.

Twelve Standardized Practices: Industrial Medicine-Surgery —Westinghouse Electric and Manufacturing Company

The following twelve items were submitted by one of the members of our Committee, Dr. Charles A. Lauffer, Medical Director of the Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa. Dr. Lauffer has made a very careful study of the best and simplest methods of handling industrial diseases and accidents and his "Scrap Book" of Industrial Medicine and Emergency Surgery is an extremely valuable publication and is now being revised. While previously it has been compiled for local use, the new revision will be given a wider distribution.

(1) Depressing the head for rapid relief of fainting, without removing patient from chair, where he may be sitting.

(2) The "Prone Pressure Method" of resuscitation.

(3) Tr. Iodin as an antiseptic in wounds, and the immediate suture of certain industrial wounds after the partial excision of devitalized parts, and after the liberal introduction of Tr. Iodin within the wound.

(4) Chloroform Liniment of the U. S. P., as a universal counter-irritant.

(5) Tannic Acid as a styptic and antiseptic in minor industrial wounds.

(6) 10% Campho-Phenol in Liquid Petrolatum as a surgical dressing.

(7) That acquired Hernia is due to an anatomical defect, and constitutes a disease; and the extreme infrequency of true traumatic hernia.

(8) Gasoline as a solvent and detergent.

(9) Electric baking and massage to remove the stiffness and fibrous ankylosis following fractures, amputations and infections, where fixation dressings have caused a long period of disability.

(10) Approximating skin incisions with adhesive strips, and minimizing the introduction of sutures in industrial wounds.

(11) X-ray service in Industrial Practice. We now take twenty or thirty pictures a day, and have substituted certainty for probability.

(12) Cleaning up oils, removing oils from cuttings by centrifuge methods, and forcibly filtering oils through eighteen layers of filter paper. When cutting oils are put through such a treating outfit, the microscopic spicules, as well as all bacterial flora, are adequately removed, and the dermatitis, due to the presence of microscopical spicules of metal in the oil, is eliminated.

As intimated in Dr. Lauffer's items submitted above, he has been a pioneer advocate of the Prone Pressure Method of resuscitation in cases of electric shock. This method is of such importance to industries in which there is an electric hazard that we take pleasure in presenting the following statements by Mr. William P. Strickland, General Inspector, New York and Queens Electric Light and Power Company, which describes an innovation of the Schaeffer Prone Method of resuscitation.

Mr. Strickland's method is based on the theory of a countershock, which is not an innovation in medical science, where we have counter-irritants to allay pain, and the shock of cold water as first-aid in fainting and certain nervous afflictions. His idea was originally inspired by an accident that occurred in 1912, when an employe who came in contact with 5600 volts of electric current that burned off his right hand and one thigh to the bone, returned to consciousness after a drop of forty (40) feet from the pole, and although he died three days later it was diagnosed to be from the effects of his burns.

Following this, Mr. Strickland taught, in connection with the prone method, the practice of immediately dropping the entire body one foot from the ground and then soundly striking both feet (without taking the time to remove the shoes), with a heavy stick or some tool—a pair of connectors, chisel, or the like.

The method gradually evolved into the present practice, where, when the shock is received by a man on the pole, the victim while being lowered is dropped three feet from the ground, one man protecting his head against the fall. Upon reaching the ground two men immediately raise his body by both feet until the weight rests on the back of the neck and then allow him to drop. This is repeated, and then striking the feet, as described above, is continued indefinitely. Meanwhile, the operation of opening the mouth, pulling out the tongue, and the other features prescribed by the Schaeffer method, is proceeded with. In all, six known cases of resuscitation in the company may be ascribed to the practice.

At this address Mr. Strickland showed, for the first time, his moving picture reel illustrating this method. It is an interesting fact that about two years ago the principal of the film had an accident similar to that depicted, and with one exception, the other men shown participated in his resuscitation. The man received a high-tension shock and was badly burned, and he and his fellow workers attribute the saving of his life to this method that Mr. Strickland has introduced in the New York and Queens Electric Light and Power Company.

LOCAL CHAPTERS

Friday Morning—June 6, 1919

President Rowe, *Presiding*

President Rowe: The first subject this morning is the discussion of the Local Chapters. Mr. Wakefield, I believe, is to introduce the subject.

Mr. P. E. Wakefield (Carnegie Steel Company): Mr. Chairman and Gentlemen, on the 16th of May, the Pittsburgh Chapter held its annual meeting, the third meeting of the kind that has been held, and that meeting marked the close of the most successful year since the Pittsburgh Chapter was organized. It was successful in the respect that it covered a greater diversity of work, held a greater number of meetings, and the attendance and interest shown was greater than at either of the preceding meetings. Now, all this was accomplished in spite of the fact that we were in war work right up to the hilt. During the Civil War, the Pittsburgh district contributed so much to the cause of the Union that President Lincoln referred to it as the state of Allegheny, and we certainly have not fallen short of that showing during the recent war. We established tonnage records that had never been dreamed of before, and every man in the district was just as busy as he could be at work for the Government in one form or another.

Now, the success of the Chapter during the last year was dependent, partly, on the war, because in prosecuting the war work in our district, we were thrown neck and crop into a number of industrial problems that never came up before, and we just had to use a new Chapter in one way or another to help us get around our difficulty.

Of course, that does not explain all of our success; we had the utmost degree of cooperation between everyone who is interested in the work of the Chapter. We found that it is impracticable to hold meetings of the executive committee, because these men were too busy to get together, but whenever they were approached for advice and comment on our plans and our problems, they gave us all the time we asked for. The officers of the Chapters, the chairmen and secretaries of the sections, and Executive Secretary Henderschott of the National Association in New York, gave us all the assistance we desired, and since coming up here to Chicago, I have gotten an idea of how much organization mail passes over Mr. Henderschott's desk in twenty-four hours, and yet in not a single case of any request we sent him, and not in the case of a single thing we have asked him to do, has he failed to respond, and, because of the sum total of this cooperative effort, we accomplished much more than we ever dreamed could be possible under the circumstances which existed at the beginning of the year.

Now, you may be interested in knowing just exactly what our membership figures are. At the time of the Fourth Annual Meeting, May 16, 1919, we had the following membership:

Class "A," 15; Class "B," 19; Class "C," 1, and Chapter members 28, a total of 63 members in regular standing as compared with 55 in 1918 and a total of 71 in 1917.

In addition to all members who pay dues, we have 200 names on the mailing list of men who are interested enough to come to some of our meetings, but have not as yet seen their way to affiliate themselves with the organization to the extent of paying even a nominal chapter membership dues, which are $2.

During the year four Sections of the Chapter were in active operation, the Trade Apprenticeship Section, the Employment Plans Section, the Unskilled and Semi-Skilled Labor Section, which devoted itself to Americanization work almost entirely, and the newly organized Industrial and Public Schools Relations Section. The first three Sections held regular meetings, one each month during the entire nine months, beginning September, 1918. The fourth Section on Industrial and Public Schools Relations in the Pittsburgh district was organized January 2nd, and held one meeting each month, until and including May, and the average attendance at the meetings was almost twenty.

I think the briefest way of giving you an idea of what our discussions covered during the meetings of 1918-1919 would be to read this program:

TRADE APPRENTICESHIP SECTION: "The Smith-Hughes Law," "Shop Problems—What to Teach and How to Teach It," "What

Adjustment Should Be Made Between the Public Schools and Industry?", "Mechanical Drawing," "Training Women for Industry," "History of the Apprenticeship System," "Incentives," "What Factors Should Be Considered When Establishing Apprentice Rates?", "How to Train and Select Executives," "Trade Tests."

EMPLOYMENT PLANS SECTION: "The Federal Employment Service," "Corporation Housing," "Emigration and Immigration," "How to Get the Cooperaiton of Foreman," "Inspection Trip," "How to Get Your Ideas Across to the Management."

UNSKILLED AND SEMI-SKILLED LABOR SECTION: "Promoting Attendance in English Classes," "Plan of the Youngstown Sheet and Tube Company for Organizing and Conducting High Schools for Teaching English and Americanization to Foreign Born Men and Women," "Company Promotion of Americanization," "The Negro in His Relations to Industry," "The Vestibule School," "Inspection Trip."

INDUSTRIAL AND PUBLIC SCHOOLS RELATIONS SECTION: "What Can Pittsburgh Schools and Industries Do to Better Aid Pupils in Their Selection of a Vocation?", "What Are the Characteristics of a Successful Industrial Teacher?" "Compensation in Industry," "An Educational Survey of the Pittsburgh Industries," "An Educational Survey of the Pupils Who Leave School in the Pittsburgh District."

That covers the first part of this report—what we did during the year.

The next part of my report deals with the organization of Chapter work. The plan along which we operate was published some time ago in the Bulletin, and I do not know that it is worth while for me to cover that ground again here, because it is familiar to all of you, but perhaps I should do it in order to keep the sequence of the report, so I will touch on it briefly.

II. Organization of Chapter work.

1. The Executive Committee determines what sections should be organized.

2. The second thing is that the Chapter Chairman calls the organization meeting of each Section, and notices of these meetings are sent to every one on the Chapter Roll, so anyone who is interested in attending any particular Section or all the Sections, may do so.

3. At this organization meeting a Chairman and Secretary is appointed for each Section. These things seem to be optional these days in this country.

4. After the Chairman and Secretary are appointed, the Chairman of the Chapter submits a list of subjects that pertain to the work of the particular Section, and by vote the members of the Section pick out the subjects they want to discuss during the year.

5. Then the schedule of regular meetings of all the Sections is prepared for the entire year, and the subjects assigned. The subjects are arranged in logical sequence, and sometimes two or more subjects are tied together to make one subject, the leader of the meeting is appointed, and a paper is prepared on each one of these subjects, the leaders of the discussion of these subjects meet the discussion at the particular meeting where it will be discussed, and, as I have said, a program for the entire year's work of that particular Section is prepared, which shows the date of each meeting of the Section, the subject to be discussed at the meeting, and the name of the leader who will present the paper and the names of those who are open to discussion.

In this way, by getting out a program of the work of each Section, every member of the Chapter knows what lies before him for the year's work, and is able to plan for these meetings accordingly.

The Constitution of the Local Chapter leaves it optional with the members how often they shall meet. In Pittsburgh it is our plan to meet regularly once a month beginning in September, and ending in May, inclusive. We have had several special meetings. These meetings are held for the purpose of making up for time lost during the influenza epidemic when we were not allowed to hold meetings, and there is nothing to prevent you having as many meetings as you think advisable.

The plan is to take one particular day each month for each section. The Industrial and Public Schools Relations Section meets on the first Thursday. The Trade Apprenticeship Section on the second Thursday; the Employment Plans Section on the third Friday, and the Unskilled and Semi-Skilled Labor Section, the Americanization Section, meets on the fourth Thursday. Having the matter laid out regularly in this plan, has this advantage, that you can always count on having an engagement on that particular day of the month.

We think that it is important that the records of the meeting be kept according to some systematic method, and in the Pittsburgh district, we attempt to do the following: In writing the minutes of the meeting we give a list of the members and non-members who attended the meeting, the time, the place, the subject and the speakers at the meeting. We give an abstract, at least, of the important opinions expressed by the members that take part in the discussion. We also record very carefully any definite conclusions that are arrived at by means of the discussion, and wherever a resolution which expresses the sense or opinion of those who are present at the meeting is passed, that is carefully recorded in the minutes, and we also include, usually, a copy of the paper that is written by the leader of the discussion.

We have attempted during the past year to distribute these records in this way: The Section Secretary prepares as many copies of the minutes of each meeting as there are names on the membership list, and then send them to the office of the Secretary of the Chapter, and he distributes these minutes of each meeting to all members of the Chapter, so that every member of the Chapter receives a copy of the record of every meeting of the Sections of the Chapter.

Now, the thing I am most interested in, is what the Chapter work will be next year. The Constitution of Local Chapters as it was drawn up three years ago and approved by the Executive Committee of our Association, defines a three-fold function for each Local Chapter, the first being to provide a forum for the exchange of ideas; the second part of that three-fold function was to collect and make available data regarding the successful methods of increasing the efficiency of the individual employe, and the third part of the three-fold function of the local Chapter is to cooperate with the public schools in the various districts in the development of courses which will fit the students in those public schools to enter industrial life.

Now, in the Pittsburgh district, these round-table meetings and discussions we have had have done nothing more than to cover the first part of that three-fold function; in other words, we have provided a forum for the exchange of ideas, but we have not as yet been able to go beyond that point, and next year we intend to do that.

When it comes to collecting and making available data regarding the best method of increasing the efficiency of individual employes, manifestly that is work that cannot be done in a general meeting, and is work for a standing committee, similar to the standing committees of our National Association, and next year we shall appoint in the Pittsburgh district, standing committees which will have well defined problems to work out, along the lines suggested by the Executive Committee or Program Committee of the Chapter.

We have made an attempt to establish certain cooperative relations with the Pittsburgh public schools. In our section we organized the Section on Relations Between the Industries and Public Schools in the Pittsburgh District. It started off with a bang, and we have been fortunate enough to interest some of the most able educational men in the Pittsburgh district, as well as the industrial men, in the work of that section. If there is one thing the Pittsburgh Chapter has accomplished, it is putting this entering wedge into a big problem that has always lain in a sort of No Man's Land between industry and public education; neither side knew how far to encroach on that territory, and there were hardly any contact points between the two sides, and the consequence was that a great deal of valuable work that might have been done was left undone, just allowed to go by default, and we think in Pittsburgh that we can by means of this Section of the Chapter get the public school men and the industrial men so closely connected with the matter, that they will see their common problems, and that this "No Man's Land" will be wiped out and there will be no twilight zone between what the public schools do for young men and the industries for the young men after they leave the public schools.

We have with us this morning some one who is better able to discuss that subject than I am, and I will not dwell on it any further.

Experience has shown that a great deal depends on how carefully the work of the Chapter is supervised. That does not mean that we must be autocratic in writing up the program. Supervision means that some one must have the responsibility of what to do. It is a common occurrence in the Pittsburgh Railway

System to have a street car jump the track, and that ties up five or six street cars, one after another, and all the crews get out and put their heads together. None of the members of the crews could put the car back on the track if he were allowed to go ahead, and being equally ranked with all the others, he does not dare make a suggestion; if he did, they would not tolerate it, and they have to wait until the inspector comes around, and shows them what to do, before the car is put on the track. That is true of all supervisory work. It does not mean anything like autocracy, but some one must definitely outline the work to be done, and every one concerned must stick to it.

On the program I have just read there was down for discussion an educational survey of the industries in Pittsburgh. When Mr. Coler, the Chairman of the Pittsburgh Chapter, assigned that subject to me, he had one idea of what the subject meant, and when the Section Chairman wrote me a letter and reminded me of the fact I was on the program to discuss that subject, his letter conveyed the idea he had a different meaning, and between the two I took my own version of the subject, and got away with it. Any one of these interpretations might have been all right, but there was no person assigned to give an interpretation to the subject which should lead the man who was to discuss it, as what was intended to be covered by the subject. I think, to a certain extent, we could profit by the same suggestions in our National Committee work. I have made more or less of a failure of my connection with the committees of the National Association. I have hardly dared to do more than stand up and make a criticism of what has been done, but one thing I have noticed several times, is that sometimes there is a difference of opinion as to what the meaning of a particular subject is, and it seems to me that it is not only the responsibility of the Program Committee to assign a subject, but also to interpret that subject in such a way that every one will understand just exactly what it means.

I do not know whether I am encroaching on something which should be taken up by the Secretary of the National Association, but I am so very enthusiastic about the value of the Local Chapter movement that I am going to run the risk of stealing some one else's thunder, and say that an idea I expressed two years ago at Buffalo has been verified by our experience during the last two years.

The organization of Local Chapters throughout the country make The National Association of Corporation Schools more flexible. We are able to take care of special and local problems without complicating the work of the National Association to such extent that it would become topheavy and break down. In that one thing I think we will find almost the entire value of the Local Chapter. It can be considered as being the local representative of the National Organization, and if we have one here and one there and one somewhere else, the local problems can be taken care of, and the credit for the results obtained in each district can be attributed to the National Association, and by heading up all of these activities in the Executive Secretary's office, we have an unlimited field of work before us, and the possibiliites of accomplishment are very great indeed. It means that instead of being hampered by the fact that a standing committee of the National Association can reach only certain men here and there, that through the fact that we have individual Local Chapters, we have unlimited resources from which to draw the material for the furtherance of the object of the National Association, for the localities in which our Annual Convention shall be held, and for many other purposes.

Another advantage is this: You do not have to have more than two or three Class "A" members in one district in order to form the nucleus of a Local Chapter. The Constitution provides that any one interested in educational problems, whether eligible to Class "A" membership or not, can join a Local Chapter, as a Chapter member, and it makes it possible where there are two or three men vitally interested in industrial education, for these men to get together and to form the nucleus of an organization that can grow and grow until it will have five, or six, or eight, or ten, or sixteen Class "A" members, as we have in the Pittsburgh district.

MR. R. F. CAREY (Westinghouse Electric and Manufacturing Company): How is the revenue received of $2 per member expended?

MR. WAKEFIELD: The Constitution of the National Association and the Local Chapters provides that half of the dues received from Class "B" and Class "C" in any one district shall be returned to the Treasurer's office of the Local Chapter in that district, and in addition they have all the Chapter membership dues that are collected. In that way our total receipts last year were close to $200, and all of that was spent in stationery, printing, postage, etc.

President Rowe: The Chair understands that we are to have a discussion of this subject from a gentleman whom I am sure you will be glad to hear from. Dr. Leavitt, Associate Superintendent of the Pittsburgh Public Schools, is interested in this work and will be the next speaker.

Dr. Frank M. Leavitt (Pittsburgh Public Schools): In the few minutes at my disposal I wish to present for your consideration three propositions as follows:

First, that a Local Chapter of The National Association of Corporation Schools is not only valuable to the corporations supporting it, but that it is, or may be, a most valuable adjunct of the public school system.

Second, that by cooperating with the public schools it can help in the solution of the most important problem now confronting the American people, namely, the so-called "labor problem."

Third, that this desirable cooperation between the schools and industry will be brought about best by means of the new branch of the U. S. Employment Service, known as the "Junior Section."

In granting me a place on your program, Mr. Henderschott wrote as follows:

"Our Association is not materially interested in the United States Employment Service. Our members are very much interested in a proper method of cooperation between the public schools and the industries. Will you not kindly bring this thought to the attention of Dr. Leavitt?"

It is *precisely* with this thought in mind that I have put before you the above outline and have made particular mention of the Junior Section of the U. S. Employment Service. I hope to convince you that it is no breach of courtesy to Mr. Henderschott to give a portion of my time quite specifically to a consideration of the Junior Section and its possibilities.

First, I have said that the Local Chapter may be of great assistance to the public schools.

As you have heard already, the Local Chapter of Pittsburgh, Pennsylvania, is a progressive organization. When I first went to Pittsburgh as Associate Superintendent of Public Schools, one of the first connections I made was that with the Local Chapter of The National Association of Corporation Schools. The Chapter holds its meetings in the rooms of the Board of Public Education, a circumstance which at once shows the spirit of cooperation, a spirit that I have found to be most active in every relationship with the Association. One result of this cooperation is that the meetings are attended by a considerable number of school men, some of whom are members of the Chapter.

You have also heard of the formation of the Section on the Relation of Schools and Industries. It is our purpose to gain, through the work of this Section, a fairly accurate working knowledge of what kind of young people come into the labor market each year from the schools direct and what kind of opportunities are open to them in the industries of Pittsburgh. Work in this field has been carried on for some weeks under the auspices of the public schools cooperating with the Junior Section of the U. S. Employment Service. In other words it may be said that we are engaged in a sort of vocational guidance survey. It is the hope and the expectation of many of us that the Local Chapter of the Association will cooperate in this survey quite actively in the year that is before us. Two forms on which information is recorded show the scope of this survey as at present under way.

SCHOOL REPORT

1. Name.................................... Date ....
(Last name first) (Month) (Day) (Year)

2. Home address.............................. Parent ....

3. Grade in school on date of this report..................Date of birth..

4. Date of leaving school. (Use either a or b.)
a. Date of last regular class attendance..................................
or b. Date on which pupil expects to leave school........................

5. Standing in school work...
a. General scholarship. High. Medium. Low (underline one.)
b. Subject or subjects, if any, in which pupil is especially successful ....
c. Subject or subjects, if any, in which pupil has shown extreme deficiency ....

6. Physical characteristics.
   a. General health. Excellent. Medium. Poor. (Underline one.)
                                                  Yes.
   b. Marked physical deficiency. No. What?..........................
   c. Approximate height ....
   d. Approximate weight ....

7. Personal characteristics.
   a. Is pupil to a marked degree,
      (1) Dependable?
      (2) Persevering?
      (3) Industrious?
      (4) Prompt?
      (5) Neat?
      (6) Initiative?

      (Underline such characteristics, if any, as are especially prominent. Mark with an X characteristics, if any, in which pupil is especially deficient.)
                                                  No
   b. Does pupil have any bad habits? Yes. What?

8. Marked interests, if any, in school or out, that may have vocational significance ....

9. Vocation, if any, suggested by counsellor..............................
   (If stenography or typewriting are suggested, give pupil's record of words per minute.)

10. Remarks ....

....

....

....

Signature of Principal..

School..

EMPLOYER'S REPORT

1. Name of firm........................Branch or plant........................
2. Address .... Telephone ....
3. Nature of business..
4. Name of General Superintendent..
5. Name of Employment Manager..
6. Name of Social Worker...
7. Accessible by card number:..
8. Total number of employes at present time under 21 years ....

                                                  Female   Male   Female   Male
   a. Office employes   Age 16-21........|........, under 16........|........
   b. Sales   "   Age 16-21........|........, under 16........|........
   c. Production   "   Age 16-21........|........, under 16........|........
   d. Engineering   "   Age 16-21........|........, under 16........|........

9. Estimated number of positions filled each year by new applicants under 21 years of age........................
10. Remarks ....

....
....
....

STATEMENTS REGARDING POSITIONS FILLED EACH YEAR BY NEW APPLICANTS UNDER 21 YEARS OF AGE

(Note: It is understood that a rough estimate may be all that can be given.)

Number (estimated) ....
Sex ....
Position ....
Age preferred ....
School preparation needed..
Physical requirements ....
Qualifications otherwise (Race, etc.)..
Wage (Max. and Min.), while learning, after learning.........................
Promotion (opportunity, line of promotion, etc.).............................

Second, I have said that the schools and the Local Chapter of The National Association of Corporation Schools may help in the solution of the labor problem. In saying this I am not overlooking the fact that the labor problem is a problem of all time and one that is never wholly "solved." Its solution needs constant revision as the problem itself changes from decade to decade.

Furthermore I would make it quite clear that by "labor problem" I do not mean "labor controversies." I have no desire, at this time, to show that labor has or has not sought to intrench itself at Washington and to dictate policies that have heretofore been shaped by other influences. Neither am I attempting to show that moneyed interests have or have not dominated legislatures, commissions and courts for the purpose of securing the lion's share of the returns realized from manufacture and trade.

Particularly, in view of Mr. Henderschott's statement that you are not interested in the U. S. Employment Service, I shall not attempt to discuss whether or not that service has been efficient, whether it has been prejudiced in favor of labor as against capital, whether or not it has been scientific in its methods or whether its continuance is justifiable under peace conditions.

What I do wish to say is that it has been my experience that it is worth while to accept the help and the cooperation of the Federal Government in carrying out the work I have described briefly above. I am quite convinced that all will see advisability of such cooperation when it is once clear just what the labor *problem* really is.

The real labor problem is now to develop industry in such a way that some day it will be clear to employer and employed alike that their interests are *compatable,* not *antagonistic*. It must be shown that progress always complicates industrial organization. No one knows that better than do those here who have to look out for the training of workers in the industries.

I am sure that men who are engaged in teaching, whether in public school or in corporation school, appreciate better than most people the truth of the above statement. We cannot interest ourselves in this thing we call education or training without coming to see the human side of all problems, even the much discussed labor problem. While we are true to our employers, we see more clearly than they that the worker must be given something more than "a fair day's pay for a fair day's work" if he is to be developed into a real man. He must have his fair share in the "thinking" and, in the final analysis, in the directing of things, if he is to reach his highest and fullest development.

Now there is a lot of "idealism" about all this, and you and I must be "practical." All I am trying to say is that when it comes to "cases," public school men and corporation school men are equally "idealistic" in their hearts whether they differ in the practical carrying out of their ideals or not. So it is a matter of great importance that these two types of teachers are getting together in the meetings of the Local Chapters and are discussing human as well as industrial problems.

Perhaps I should say something about the modern school system to show that it has changed radically from that which we knew twenty-five years ago. We must not make the mistake of thinking that the schools have stood still while such giant strides have been made in every other field of human endeavor. Take my word for it—the schools are READY to cooperate. Perhaps it will be necessary for you to show them how to do it, but they will follow your lead gladly. While in the past they have given a leisure-class education that led the pupils away from work, they now are emphasizing *vocational* education.

While the public schools have developed vocational education they have come to see that education merely is not enough. Vocational guidance is found to be quite as necessary. Vocational guidance involves the collection of information as to the various ways in which people earn a living and also information as to the personal equipment with which young people come into the labor market direct from the schools. It means as well the establishment of some organization for bringing together the young people and their employers; in other words, the placement machinery. Finally vocational guidance involves some follow-up work to help the young people in the necessary readjustments of early occupational life. Incidentally it may be said that adequate follow-up work will reduce "job hoboism" and the "labor turnover."

It is almost impossible for the schools, as now organized and directed, to do all this themselves. The work in Pittsburgh, to which reference has been made, has been immensely improved through cooperation with the Federal employment service. The schools, quite naturally, emphasize a more or less idealistic and theoretical guidance with a presidency of some corporation at the end. The U. S. Employment Service, on the other hand, as naturally concentrates on placement. By bringing together these two ideals, both are improved. A new development in the Department of Labor known as the "Junior Section," an outgrowth of the "U. S. Boys' Working Reserve," with headquarters in the Department of Labor, Washington, D. C., appears to furnish an excellent agency for bringing together and for coordinating these two necessary functions of a genuine vocational guidance system.

The Pittsburgh plan of vocational guidance and placement is supported jointly by the Pittsburgh public schools and the Federal Government. The whole is directed by one of the associate superintendents of the school system, who is appointed by the Government as a "dollar-a-year" man in charge of the Junior Section. Thus all the work is actually under the direction of the Board of Education.

The complete organization for carrying out the plan includes, in addition to the director, an assistant director, a general counselor for girls, a general counselor for boys, a placement secretary for children under sixteen years of age, a director of educational guidance, two clerks, and a vocational counselor in each high school. The Junior Section has at its disposal also the services of the placement offices in the Women's Division of the U. S. Employment Service together with all the employment data collected by that office since its organization.

The plan thus enlarges the vocational guidance department of the schools to include counseling and placement for all young people under twenty-one years of age, whether these young people are in school or not. Obviously there are no means of compelling young people to accept this service. It is necessary, therefore, to make it so valuable to them and to their prospective employers that they will desire to use it. To this end there has been established a central placement and information office, which is in close touch with the schools, public and private, and with the employing interests.

In carrying out this plan it has been found necessary to make a partial survey of the employment situation. The forms used in this survey have been referred to above and are appended.

I have tried to show that, in my opinion, a Local Chapter of the National Association of Corporation Schools may be tremendously useful to public education; that, working with the schools, it may help in the solution of the great labor problems; and that the Junior Section, described above, provides an ideal connecting link between the public schools and industry.

We should remember that industry has not always considered the needs of its young workers. We should also remember that, in the past, the schools have sometimes been "academic" rather than "human" and have led many children away from rather than toward those industrial activities that are at once their greatest need and greatest blessing. Between the industrialism of the shop and the scholasticism of the school the real, vital, human factors in the problem of education and training have been overlooked. But a day is dawning and the Local Chapter of The National Association of Corporation Schools may have a large share in making it the best day thus far.

President Rowe: I am sure, Dr. Leavitt, your remarks have been highly appreciated, coming from the other side of the fence, so to speak. We always want to get all the angles on all these important questions that we possibly can. The fellows who have to deal with these problems practically have their views and they are apt to become a little narrow just like the pedagogues' view on the other side, and when we can get together and work together and exchange ideas, and rub off a little of the rust from our brains, it helps in producing a smoothness of things which will get results.

I should like to have further discussion. I suppose you know the history of the Local Chapter in this Association. It was a natural outgrowth of our efforts to reach people in each locality, and provide for them as well as we could the particular things they wanted, that would help them. The result was that that desire finally took shape in the formation of Local Chapters.

"Wherever two or three are gathered together"—I am getting on sacred ground—with one idea uppermost, and a real purpose, with the inspiration to accomplish a real thing, and they will accomplish it even if they do slip up occasionally in the working out of the problem.

Now there ought to be a Local Chapter in every city in which we have two or three members of this organization.

Dr. A. J. Beatty (American Rolling Mill Company): There are two important functions of Local Chapters. In the first place, I would disagree with the Chairman as to the size of a Local Chapter. I do not think it is necessary to have a half dozen Class "A" members in any community in order to have a Local Chapter. If you were to refer the matter to me, I would say that two or three were sufficient, and I will cut that down to one, because we have a very thrifty Local Chapter of The National Association of Corporation Schools in Middletown, Ohio, and there is just one Class "A" member there.

PRESIDENT ROWE: Put that down. We did not know they had that.

DR. BEATTY: You probably know the last company that became a Class "A" member of the Association became a Class "A" member through the influence of our Local Chapter.

PRESIDENT ROWE: They had a Local Chapter before they had a member; put that down.

DR. BEATTY: I have in mind two of the very important functions of Local Chapters: One is to get Class "A" members—I think perhaps we men who come here are the little guns of our concerns, and the big guns frequently do not come, and therefore one of our important functions is to go back home and to sell the Local Chapter idea to the big guns of our concerns. Some of us are not doing that. Some of us do not realize how important it is for this organization to have more Class "A" members.

I will digress from the main subject under consideration far enough to call attention to the fact that our Executive Secretary has been working under very serious handicaps for years, simply because this organization does not supply enough funds in Class "A" membership dues—does not supply enough funds to finance this organization in the manner in which it should be financed. I think that we have had the most excellent service from the Executive Secretary that any organization in our country has ever had. (Applause.)

Mr. Henderschott has given a tremendous amount of energy to this work, and has brought to it a vast amount of experience. He has procured for us most excellent results under, as I say, the most serious handicaps, while he is holding a very important position with this organization, he is compelled to ask, or to take without asking, a large part of his time and energy from his employer to give it to this organization, simply because this organization does not supply him with the funds to enable him to carry on the work of The National Association of Corporation Schools in the proper manner. The necessary funds to carry on the work in the proper manner cannot be procured, unless we have more Class "A" members, and more Class "A" members cannot be had unless we fellows who are scattered around over the country get busy and organize Local Chapters and interest the big men of our companies in the work of the Local Chapters, and through the Local Chapters, to get other large organizations to join this Association. I believe every member, wherever he may be, should consider himself as a Local Chapter, whose chief function is to get more Class "A" members.

VICE-PRESIDENT KINCAID: I do not want to criticize the President or criticize his salesmanship, but he claims to be a salesman, and still he confesses he went home and tried to organize a Local Chapter and failed. I want to inform the Chair, if he has not already been informed, that Western New York has organized a Local Chapter since we have been here.

PRESIDENT ROWE: They will spring up all over the country now.

VICE-PRESIDENT KINCAID: We have five members and already have our organization, and I, for one, am very much pleased to hear this discussion, especially the first two speakers, and for that matter, all of the speakers. There are two features in connection with the work of the Local Chapters which have been brought out this morning which have interested me very much. There is one feature in particular, and that is the thing which has weighed on my mind ever since this organization has been established—one of the chief activities of this organization—I do not say it is the chief activity—one of the chief activities to my mind, is the connecting up with the systems of education by establishing means of getting on common ground with regard to many of the questions which interests us. This idea of sitting over on the opposite side of the fence, and throwing bricks at the other fellow never got you anywhere, and you either want to get up and sit on the fence together, or go over on one side or the other, and get to work and secure the benefit which comes from mutual cooperation.

I believe we stand in a new position to approach the educational systems in our respective communities through the Local Chapters, the Local Chapters forming a basis of active cooperation. One man has said that the world does not need more preaching, but needs more doing. I think that applies to this educational subject. We do not need more theories, but we need to work out the theory we have already, and I am glad to see that in Pittsburgh they have commenced to work out the theory.

I do not think we can do more for this whole educational problem, than to go home and to form Local Chapters and cooperate with the public school system. One gentleman has referred to the formation of a Chapter with one member. I do not think that that would be strong enough. It looks to me as if there would necessarily have to be a few more members. It appears to be as if we would have to have about four or five Western New York Chapters, and we will have to begin to look for two concerns to increase the membership of our Local Chapter at our next meeting, because we have seven Class "A" members in five or six cities, and we are out to greatly increase that number this year. At first we will start out on the basis of cooperation, and see how it works.

PRESIDENT ROWE: Are there any representatives of the Chicago Chapter, the Philadelphia Chapter or the New York Chapter present? We would like to hear from them, as to what they are doing. This business is being transacted under the heading of "Discussion of the Local Chapters," and we would like to hear from as many representatives of Local Chapters as desire to make report regarding their progress. Mr. Jenkins, will you tell us what your success has been here in Chicago with your Local Chapter?

MR. F. R. JENKINS (Commonwealth Edison Company): Mr. President and Gentlemen—The Chicago Chapter has been delinquent in many things which the Pittsburgh Chapter has taken up and put across. I believe that all Chapters may well copy the program of the Pittsburgh Chapter.

We started in a small way, and in order to interest the Class "A" member companies, we had dinner meetings monthly at 6:30 in the evening at which time we endeavored to have a speaker who addressed us on one of the subjects covered by the work of the Association. I think we have been fairly successful, and I believe we have already selected for the next administration officers who will insure an active Chapter next year.

I should like to call the attention of the executives to the by-laws of the various Chapters. Here in Chicago we really do not know who are the present officers of our Chapter. The by-laws are rather indefinite on that point. As I understand it, the new officers of the Chapters are elected a month before the annual convention of the Association, but it does not state when they take office. I should like to have the Executive Committee straighten that matter out. I believe that the officers should be elected before the convention, and take office after the convention, thus giving an opportunity to get in touch with their work, and prepare for the next year's convention.

We were rather nonplussed for the moment, whether we should turn to convention matters that the old officers had worked on for months over to the new officers, or continue to work under the old officers, and we compromised by getting the new officers on the job and working in conjunction with the old officers.

Executive Secretary Henderschott: I will reply to Mr. Jenkins' statement by reading from the Constitution which was adopted by the National Association. It leaves it optional with the Local Chapter when their officers shall be installed. The provision in the Constitution is as follows:

"Section I, Article V. Meetings. The annual meeting shall be held about 30 days in advance of the date of the Annual Convention of the National Association."

At that meeting the officers are elected, but it is optional with the Section when they are installed.

Mr. Jenkins: It does not say so.

Secretary Henderschott: It does not say anything about it.

Mr. Jenkins: My point is it should state definitely when the new officers take office. That provision, which you have read, leaves us up in the air.

President Rowe: Mr. Wright, tell us something about the work of the Philadelphia Chapter.

Mr. Mont. H. Wright (John P. Stetson Company): I can not report anything of special interest. We believe the Local Chapter idea is a good one, and fundamentally right. We have been handicapped during the last two years, for many reasons, in our Chapter work. We have had meetings, but we have not undertaken any special work.

The Chapter idea is not a new idea—other organizations have used it very successfully. If the Chapter idea can be worked out thoroughly it will be found to be a very valuable help in building up and cementing interests in our organization. I feel quite sure that this next year will bring the Chapter idea into closer focus all over the country.

There are many of us interested in the Chapter movement in our respective cities, who have had considerable other work to do —the war work has been very exacting. I think before our next annual meeting we will have a very satisfactory report to make about the success of our Local Chapter. I would like to raise my modest voice in urging you to promote this idea, it is the thing which should be done, and I would go so far as to say that in my opinion, during the next twelve months, we will face situations of such importance that it will be necessary to have organized throughout the country successful Local Chapters to assist in putting this Association in the position it must be in, to undertake the work that it should do in this country.

PRESIDENT ROWE: Have we any report from the New York Chapter?

EXECUTIVE SECRETARY HENDERSCHOTT: I will report the New York Chapter in just a sentence. We were practically at a standstill during the year, but beginning last fall, we got a very excellent organization going. I want to say that the New York Chapter will tell you its story next year. We are getting there.

I want to take just a moment to bring up a question my good friend Dr. Leavitt gave me an opportunity to bring up. I thought he was talking about me, until he referred to you people in Pittsburgh as living in a city where you made iron and steal for a living, and then I forgave him.

The position of your executive officer or working officer—whichever you wish to call it—(the Board has changed the title to Managing Director, which I think is a step in the right direction) is a very peculiar one. One of the originators of this Association, and a man who has been active in its support ever since its first convention, said to me: "Can Mr. So-and-So come to your convention next year?" That sounds very simple, but I see it in a different light. I am not conscious that I have ever done anything to give anybody the impression that I am the National Association of Corporation Schools, and if there is anything I can do to undo that impression, wherever it may exist, I want to do it now, because that is a fatal mistake. I am your working officer, and not the Association.

I want to second heartily what Mr. Wright has said—that this Association is going to face a crisis, how great nobody can tell, and if we are going to be a vital factor in developing a sane, sound philosphy, which will insure to all parties their rights, according to their merits, it must be an Association of all of its members. Why cannot we have in this Association something of the spirit that the Elks have or the Rotarians have—you never meet an Elk or a Rotarian that he does not begin boosting for his organization. He is always pulling for new members. I think we should endeavor to cultivate that spirit among our members. Three of the last five members we got were gotten through the Class "A" members.

But we are handicapped. We all know it, and it is a delicate thing to speak about. I am one man serving two masters. You pay me three thousand dollars a year, and you get part of my time, but this is not efficient and it is not effective.

Let us ask ourselves at the beginning of this proposition, is this Association worth while? Let us ask this question seriously, and settle it. If the answer is, "It is worth while," then it should be self-supporting; that is obvious.

The New York Edison Company has spent between $30,000 and $35,000 in support of this Association. It is not right for the New York Edison Company to continue doing that any longer, not right for the other members. The New York Edison has not asked a question as to what should be done by the Association, but has simply helped to support it.

Your Executive Committee has been very busy with canvassing many possibilities, but it always gets back to where it started, so far as money matters are concerned, and I am practically convinced that the way to put this Assoiiation on a self-supporting basis, where we will all feel satisfied, and where you will have the time of some working officer, and have a working force under the direction of this officer, which is really the better plan, is to go home and get 75 more Class "A" members. That will give us the number we require to furnish the revenue we ought to have to be self-supporting and enable us to carry on our present activities.

This is a serious, pressing proposition, and I would not take up your time if it was not. Every member here ought to think about that seriously. It can be done, there is no doubt about it. It is an educational question. There are just three points in selling our proposition: First, to reach the right man or men in the institution; second, to acquaint them with the service we can render, and third, to inform them that they are going to be confronted with the problems our Association specializes on, and there is no way of avoiding it.

BUSINESS SESSION

FRIDAY MORNING—JUNE 6, 1919

PRESIDENT ROWE, *Presiding*

MR. SYDNEY W. ASHE (General Electric Company): Mr. President and Gentlemen—I have a little duty, a business matter to take care of, which will necessitate my leaving this meeting early, and I therefore ask for the privilege of reading the report of our Committee on Resolutions a little bit out of order.

The specific resolutions which we have I will read briefly. They were compiled by Mr. Skinner, Mr. Cobaugh and myself. They are as follows:

Whereas, The Chicago Local Chapter of The National Association of Corporation Schools has been a most courteous and cooperative host at this, our Seventh Annual Convention, we wish, therefore, to express our appreciation of the splendid spirit of helpfulness extended, which has contributed so much to the success of our convention.

Be it Resolved, That the thanks of The National Association of Corporation Schools be and hereby are extended to Mr. F. R. Jenkins, Chairman, and to the members of the General Convention Committee of the Chicago Local Chapter for their great interest and thoughtfulness.

Resolved further, That the membership, through those present, extend to Dr. H. M. Rowe, the retiring president, to the members of the Executive Committee, and the members of our various committees and sub-committees, their sincere thanks and congratulations for the splendid manner in which the affairs of the Association have been handled the past year during these most trying times.

Resolved further, That we thank the local companies for the inspection trips and entertainment provided for our members during their stay in Chicago.

Resolved further, That the continued courtesies extended by The New York Edison Company in furthering the interests of this Association are fully recognized and appreciated.

Resolved further, That we express our recognition of the valued and efficient services of our official reporter, Mr. T. E. Crossman.

Respectfully submitted,
SYDNEY W. ASHE, Chairman,
THEODORE H. SKINNER,
E. S. COBAUGH,
Committee on Resolutions.

PRESIDENT ROWE: Gentlemen, you heard the report of the Committee on Resolutions. What is your pleasure?

MR. H. G. REIST (General Electric Company): I move the adoption of the report.

(The motion was duly seconded, put to vote and carried.)

PRESIDENT ROWE: Now we go on to the next topic, which appears to be the Report of the Nominating Committee.

MR. ALBERT C. VINAL (American Telephone & Telegraph Company): I should like to refer to what Mr. Henderschott said just before the report of the Committee on Resolutions was presented. I take it that Mr. Henderschott desires a really frank expression. In getting an organization of this character started, some one has to father it. I think the organization owes a great debt of gratitude to The New York Edison Company, but I have felt for at least four years that the Association had reached the point where it ought to strike out for itself and not accept the continued and special assistance and hospitality of any one corporation. I believe that the Association should, in a self-respecting way, rent the office space required in some such building as the Engineering Societies' Building, where other national organizations have quarters. I believe this step to be very important for the vitality and growth of this organization.

Furthermore, I believe we should have the full time of our executive officers.

Now as to the resources—there is no question about their availability. For illustration, a single piece of research work, a study of the possibilities of scientific means in the selection of salesmen, was of sufficient interest to a number of corporations so that $75,000 was provided for it. If the Association will strike out boldly on its own resources, sink or swim, it will be possible to get the revenue required if it is sufficiently responsive to the needs of the member companies. We know it is not unusual for corporations such as are represented here to make substantial endowments to enterprises designed to return large benefits to them. It seems obvious that the member companies would feel more sense of responsibility for the Association if there is no basis for the impression that any one member company stands ready to help it in a special way.

I believe The New York Edison Company should have the genuine thanks of the members of the Association for all of the help and support which it has lent to it.

I think, too, Mr. President, we must face the facts squarely. As the gentleman who just preceded Mr. Henderschott said, "Things are moving very fast these days," and The National Association of Corporation Schools should move fast, also.

Mr. President, to get this matter before the meeting, I should like to offer this resolution: "It is the sense of this meeting that The National Association of Corporation Schools acknowledge its gratitude to The New York Edison Company for its generous help; that the time has come for it henceforth to stand on its own resources; that the Executive Committee be requested to make plans, as soon as practicable, to secure independent offices for the administrative work of the Association; that the work of the Association requires the full time of its Managing Director."

PRESIDENT ROWE: I think the Chairman might say something about this that would be of some interest.

It is very true that we are under a debt of obligation to The New York Edison Company. It is also very true that it has been asserted to me in correspondence that one of the reasons for the lack of increase in our membership was because there was too much domination from The New York Edison Company in the management of the affairs of this Association. I have these documents and I have other written data upon that subject which, to me, are very offensive.

I am saying this to you because I want you to understand, ladies and gentlemen, that this is a serious matter that you are facing. There has been no lack of consideration on the part of those who for the time being have been charged with the responsibility of conducting the affairs of this Association in trying to find ways and means of doing just the things that people talk of as being so easy to do and do not lend a hand to do it.

We have placed before you at past meetings of this Association the importance of receiving additional members, Class "A" members. We do a tremendous amount of work, four or five times the amount of really hard work in managing the affairs of this Association that the average member of this Association knows of. Mr. Henderschott's name has been used more than once in this connection, but I tell you that during my experience of about one and a half years now in close association with Mr. Henderschott, I had no idea of the amount of work that he does for this Association, or the amount of the expenditure of vital energy and effort that he puts forth in behalf of the Association, and I tell you again it has not been one-half paid for. (Applause.) The members of this Association are not paying for one-half of the benefits they are getting from the work of the Association.

It is time to put these facts up to the people at home. Why do not some of those people who give donations come along and say, "Here is a donation that has been suggested by a Class 'A' representative of our company in this organization." We do not hear of them.

Don't you suppose it has humiliated your officers to feel that we were practically existing upon the charity and the good-will of one particular company, which had the vision to see that the importance of this work justified them in turning over to us free of charge certain facilities which would ordinarily cost many thousands of dollars.

When I became acquainted with the true situation I was shocked, and I believe today there are many of the member companies of this Association who have no idea that present conditions exist; and that is because both Mr. Henderschott and his company were very modest in regard to the matter, and said nothing about it. They were willing to give a certain amount of money where they thought it would do the most good in helping others. So the situation has come to us.

Here is the situation: We have reached the point where we have established ourselves as an efficient agency in the distribution of knowldge that was and is of high value to the member companies we have. That is established.

I was told the other day by the dean of a large university that there was no other literature on the shelves of their libraries touching the subject that we deal with that would compare in quality and in value with the five or six volumes that we have published containing our proceedings. He is a man of great discernment and judgment, and that statement stands for itself.

We are comforted with certain fixed charges. We have to gather information from all sources. We have to be on the job day and night. It has taken a very large part of my own personal time during my short incumbency of the office that I have had the honor of holding, irrespective of a great deal of energy put forth by the various members of the Executive Board, who have held meeting after meeting and spent hours trying to find ways and means of increasing our income to take care of the projects that we want to carry out, and which we do not have the income to meet.

Now,. to use the slang expression, it is money that makes the mare go. It is the same with an automobile, but this is an automobile which, while it seems to have plenty of gas, does not have it solidified in the shape of dollars to push along this proposition. There is no use telling ourselves that we should do this and we should do that. This is no criticism of Mr. Vinal —there is no use talking about things. If we asked you to go home and say to your company that, in order to carry on the work of this Association, it will require them to double their annual dues, how many of you would like to take up that task?

MR. VINAL: Are you prepared to say at the same time we will double the service that the Association will give its members?

PRESIDENT ROWE: I do not know who will measure the service —we will spend every dollar for the best service that we can give. You cannot measure a given amount of service by a given number of dollars. That is not the way these things are done. I want to know how many here are willing to go home and say that we need an additional $100 dues from each company now a member of the Association in Class "A"? Is there any one here who is authorized to say that they will give $100 more?

(Three members rose and responded affirmatively to this question.)

PRESIDENT ROWE: Are there twenty-five men in the Association who will put up $1,000 to underwrite the Association until it can secure sufficient funds for its purposes? I am one.

VICE-PRESIDENT KINCAID: I will be another.

HARRY H. TUKEY (Submarine Boat Corporation): I will be another.

PRESIDENT ROWE: Are there any members who will try and put up $5,000 to underwrite this Association? I am one.

MR. TUKEY: Put that in another way——

PRESIDENT ROWE: How would you put it?

MR. TUKEY: How many men are willing to go home and try to get their employers to underwrite the Association?

PRESIDENT ROWE: I am talking to these men because they are here and this is where criticisms have been made, and I have heard the statement that we are not doing as much as we ought to do with the money we have. I am talking business. I cannot talk to the men at home, can I? I cannot talk to your presidents and your treasurers and your other officials at home. I can talk to you, and I can talk with money to back up my views in this situation.

MR. MONT. H. WRIGHT (John B. Stetson Company): Come to see us and you can get the money——

PRESIDENT ROWE: Yes, I would do that if I had time to go around the country; but I am busy, I have many interests. I have a deep and abiding faith in the absolute necessity of maintaining this institution. (Applause.) It is the greatest educational foundation on which to build a superstructure for industrial education that exists in the whole educational scheme of the United States. There is no other opportunity for the beneficent use of money that will equal what we have today in the affairs of this organization, if they are properly managed. We can bring almost heaven and earth together in the industrial field. We can do wonderful things if we can hook up with the public schools and get that cooperation which the doctor from Pittsburgh so kindly referred to, and so practically referred to, a little while ago. We can wipe out the chasm between labor and capital, so-called, until there is just a shadow of it, and the only thing that will be left is that which cannot be removed, because of the human nature of the race.

Mr. Wright: I should like to make a modest request, that every one here try to get one new member.

President Rowe: Yes, I will do that. Will every one here conscientiously try to get one new member in the next thirty days? If we can do that, it will be a fine thing.

(Various members in the room then agreed to get each a new member for the Association, the total number of members making this agreement being about twenty-five, some of the members agreeing to get two new members.)

Mr. Vinal: Just to get this matter before us, I make a motion:

That it is the sense of this meeting that The National Association of Corporation Schools is big enough to stand on its own resources.

I make the specific motion that it is the sense of this meeting that the Executive Committee of The National Association of Corporation Schools be requested to make plans as soon as practicable to secure independent offices for the administrative work of The National Association of Corporation Schools, and that they attempt to make arrangements with The New York Edison Company to secure the full time of Mr. Henderschott, our Managing Director, in the interests of The National Association of Corporation Schools.

President Rowe: There are several statements in your motion. Will you not be good enough to divide your motion into sections?

Mr. Vinal: There are really only two—one in regard to space and one in regard to the Managing Directorship.

President Rowe: I will ask the reporter to read the first part of the motion and we will act on that.

The reporter read the following:

"It is the sense of this meeting that The National Association of Corporation Schools acknowledges its gratitude to The New York Edison Company for its generous help; that the time has come for it henceforth to stand on its own resources; that the Executive Committee be requested to make plans, as soon as practicable, to secure independent offices for the administrative work of the Association."

(The motion was duly seconded and carried.)

President Rowe: I will ask the reporter to read the second part of Mr. Vinal's motion.

The reporter read the following:

"That the work of the Association requires the full time of its Managing Director."

(The motion was duly seconded and carried.)

President Rowe: I think that it is a very good move. My urging that the membership secure thirty additional members was intended to bring that about.

If my attitude in this matter has seemed a little aggressive, it will be fully explained to you when you understand that this is not a new thing to me, and that it has come up in various ways that have been disagreeable to me, not to me personally, but because when I know of the devotion of not only the Executive Secretary, but of members of your Executive Board, and your other officers, in trying to solve the many problems that are presented in the conduct of the affairs of the Association, and when they are criticized for something that they cannot control, of course I am pretty quick to take fire in their defense.

When the Executive Committee has been working for three years, to my personal knowledge, upon this very problem that has been presented here, and we have not found a way out, and then the matter is brought up in such a way as would seem to indicate, at least, that we had been careless in the matter, of course it becomes offensive.

The next business on the program is the report of the Nominating Committee. That will be presented by the Secretary.

REPORT OF NOMINATING COMMITTEE

SECRETARY HENDERSCHOTT: Mr. McLeod, the Chairman of the Committee, asks me to make the report. The report as prepared by the Committee on Nominations is as follows:

President—W. W. Kincaid,
The Spirella Co., Niagara Falls, N. Y.
First Vice-President—Arthur H. Young,
International Harvester Co., Chicago, Ill.
Second Vice-President—James H. Rand,
The Rand Co., North Tonawanda, N. Y.
Members of the Executive Committee:
George N. Van Derhoef,
Dodge Mfg. Co., New York, N. Y.
K. W. Watterson,
American Tel. & Tel. Co., New York, N. Y.
W. H. Maddock,
Thos. Maddock's Sons Co., Trenton, N. J.
C. S. Coler,
Westinghouse Elec. & Mfg. Co.

Respectfully submitted,

(Signed) JOHN MCLEOD, Chairman,
WILLIAM R. HEATH
J. A. RANNEY
E. W. LONGLEY
F. P. PITZER

SECRETARY HENDERSCHOTT: The report of the Nominating Committee is changed somewhat as sent out, due to certain conditions. I should like to read a telegram from Mr. C. R. Dooley.

"Members of the Executive Committee: I would like to retain Class 'C' membership for the time being.

"Wish you best success for the convention."

Mr. Coler succeeds Mr. Dooley as the Class "A" representative of the Westinghouse Electric and Manufacturing Company, and Mr. McLeod told me he had been chosen by the Nominating Committee to succeed Mr. Dooley on the Board.

Under the Constitution, any one can nominate from the floor for any of these offices or for all of them.

PRESIDENT ROWE: Gentlemen, you heard the report of the Nominating Committee, and also the supplemental statement made by the Secretary. Additional nominations are in order, if it is desired to make them. What is your pleasure?

MR. HARRY A. HOPF (Federal Reserve Bank of New York): With great respect to the Nominating Committee, and to the individuals who have been proposed for the offices enumerated, I would like to propose from the floor as a member of the Executive Committee the name of a Class "A" representative who has been with the organization from the beginning, who served with distinction on the original Organization Committee, and whose work on these committees, as well as whose activities at conventions, has demonstrated his extreme value to the Association. It gives me pleasure to put the name of Sydney W. Ashe in nomination as a member of the Executive Committee.

PRESIDENT ROWE: The name of Sydney W. Ashe has been put in the list from the floor, in nomination as a member of the Executive Committee. Are there any others? If there are no other nominations, we will proceed with elections.

EXECUTIVE SECRETARY HENDERSCHOTT: If there are no other nominations, I believe you can proceed with the election of the President, the First and Second Vice-Presidents, and then you will have to appoint, under the Constitution, tellers to count the ballot for the members of the Executive Committee.

MR. J. J. GARVEY (Western Electric Company): Is Mr. Young a Class "A" representative of the International Harvester Company?

EXECUTIVE SECRETARY HENDERSCHOTT: Mr. Young is a Class "B" member.

MR. GARVEY: Can Class "B" members hold office?

EXECUTIVE SECRETARY HENDERSCHOTT: Class "B" members can hold any office. Class "A" members only vote, but the Class "B" members can hold any office. We have had several Class "B" members who have held office.

MR. HOPF: As to a point of information. Am I correct in having heard the Secretary here read the name of James H.

Rand, of North Tonawanda, N. Y., as proposed nominee for Second Vice-President?

PRESIDENT ROWE: That is correct.

MR. HOPF: May I ask the Secretary to give us the benefit of his knowledge of the gentleman and his connection with the Association?

EXECUTIVE SECRETARY HENDERSCHOTT: I was making the report for the Nominating Committee, and so stated in my remarks.

MR. HOPF: I withdraw the suggestion, and ask that some member of the Nominating Committee give the information.

PRESIDENT ROWE: Are there any members of the Nominating Committee present? Mr. McLeod was Chairman of that Committee. If there is any one who can give the information, any one who knows the gentlemen selected by the Nominating Committee, who can give the information asked for, we would like to have it.

VICE-PRESIDENT KINCAID: I come from the adjoining town in which Mr. Rand is located. I do not know Mr. Rand personally, but I know of his sterling qualities as a business man. One of his qualifications for the office is that he is an executive of his company, and accustomed to executive work, and is very much interested in this Association, although a new member.

Mr. Rand is a man who will give his time and energy to any office to which he may be elected, and is fully qualified as an executive to serve upon this Board. I am not a member of the Nominating Committee, but I merely am giving you what information I have. I think it is desirable to have some executives who are not too busy to take the time to attend the meetings of the Executive Committee and do the necessary work. I do not say they should all be executives. I do not think that any one who is here will say that they should be all Class "B" members, or men working for corporations. I think we should have a reasonable mixture of both, and it is difficult to get executives to serve on such Executive Committees, as it makes a demand upon their time, and I am sure if we could get Mr. Gary, of the U. S. Steel Corporation, we would like him to come and serve; but in selecting the executives, that is, the members of our Executive Committee, we must select executives who are not too busy to attend the meetings, and whose interests will bring them here, and who will devote some time to this work, and that is reason for the selection of Mr. Rand, I have been informed.

Mr. Hopf: I do not wish to seem to be too eager for information, but I would like to know whether the Rand Company is a Class "A" member or what Mr. Rand's classification is.

Executive Secretary Henderschott: The Rand Company is a Class "A" member, and Mr. Rand is a Class "A" representative.

President Rowe: Are there any other gentlemen present who know Mr. Rand?

Mr. Wright: I want to relieve any embarrassment that Mr. Hopf may feel in being the only one who has spoken on this subject. I had not the slightest idea of bringing this question up, but it seems important. We have all referred to the great likelihood of our facing important problems within the next year or two, and if it follows in this case, as it usually does, that our officers are advanced in the succession of their nomination—that is, the Vice-President is advanced to President, and the Second Vice-President to First Vice-President and then to President—it is quite important to look ahead for at least two years, and as Mr. Rand would naturally become the President of the Association in two years from now, it is not unbecoming that we should know something about Mr. Rand. Probably, if we can just vision the thing far enough in advance, and if there is a stronger man we can get who would become the President in two years, we should consider whether or not our Association will not need the strongest man we can get, and we should therefore select the strongest man available, and place him in order for promotion. It seems unfortunate to me that the Chairman of the Nominating Committee leaves this meeting without any information on this subject.

Mr. Hopf: I am very glad, indeed, to have a member of the Executive Committee express himself as the previous speaker has done. I consider the point he made of extreme importance, and I feel, as a Class "A" company representative, if I am to vote on certain names, I should have information which will enable me to vote intelligently, especially in view of the rotation in office which is our custom.

I do not know the gentleman, and I am sorry to be compelled to use his name in making a point. Nothing that I have said is to be construed as any objection to Mr. Rand. I am led to make the inquiry I did because I had not understood he had been previously active in the Association, or had been previously interested in work of this character. I am glad to have heard what Mr. Kincaid said.

I do think that we might properly search among the members of this Association, to see whether perhaps the honor of this Vice-Presidency in the Association might not preferably go to some one who has been particularly active in the Association, and who knows something about it, and therefore is qualified to fill the office of Second Vice-President, and in succession the office of President.

I regret that at the moment I am at a loss to make a nomination in place of that particular nomination to which I have referred, but my desire would be to do it.

President Rowe: I would say for your information, Mr. Hopf, just as I gathered it, that very careful inquiry has been made in regard to Mr. Rand, and he was described as Mr. Kincaid has described him. I was not on the Committee and these remarks are simply incidental. I happened to hear some of the discussion about the qualifications of the nominees, and I think Mr. Heath, of Buffalo, spoke very highly of Mr. Rand's qualifications, and he certainly has shown a very great interest in the affairs of this Association, although he is a new member.

The Chairman has no objection, and I am sure no one connected with the Association has any objection, to other nominations if you have any better men to propose. We want the best men.

Mr. Hopf: May I inquire whether Mr. Dooley is barred from serving in that capacity?

President Rowe: He is no longer connected with the member company.

Mr. Hopf: With your kind indulgence, may I suggest there is another name for which I ask the consideration of this gathering? As you know, the intervening of the war made it impossible for us to hold a convention during last year. That barred us from having the active contact with our late President, Mr. Dietz, which we would have had if we had held the meeting last year. Mr. Dietz, as you know, has changed his headquarters from Chicago to New York recently. I feel that both Mr. Dooley and Mr. Dietz are among the most valuable members of our organization, and even at the risk of establishnig a precedent, I want to place in nomination the name of Mr. J. W. Dietz for Second Vice-President, so as to insure to the organization the continuance of his work in an active capacity during the present year, which is going to be one of the most difficult in our history.

President Rowe: Mr. Dietz is eligible.

There is a representative of the Rand Company in the audience, I am told. Perhaps he can tell us something about Mr. Rand. He is the regular nominee of the Nominating Committee, which, I suppose, investigated his qualifications. It is the duty of the Chair to see that the facts are known.

Mr. H. E. Ingram (The Rand Company): Speaking for Mr. Rand, I know Mr. Rand would not consider the office at all unless he was generally acceptable to every one. I believe that is all I care to say.

President Rowe: Are there any other nominations for Second Vice-President than those which have been made, namely, Mr. Rand and Mr. Dietz?

Executive Secretary Henderschott: Do you want to proceed with the election of the candidate for President by ballot? There is only one nominee for that office.

Mr. E. S. Cobaugh (Midvale Steel and Ordnance Company): I move that the Secretary be authorized to pass the ballot of the members present for Mr. W. W. Kincaid for the office of President.

President Rowe: That is in regular order, under the Constitution.

(The motion was duly seconded, put to vote and carried.)

Executive Secretary Henderschott: The Executive Secretary casts one ballot for Mr. W. W. Kincaid for the office of President, as instructed.

President Rowe: The ballot has been reported in favor of Mr. W. W. Kincaid to the office of President for the ensuing year, and Mr. Kincaid is declared duly elected.

Executive Secretary Henderschott: The report of the Nominating Committee gives as the nominee for the office of

First Vice-President, Arthur H. Young, of the International Harvester Company, there being no other nominations for that office. Am I correct?

MR. E. E. SHELDON (R. R. Donnelley & Sons Company): I move that the Secretary be authorized to cast the ballot of the members present for Mr. Arthur H. Young as First Vice-President of the Association.

(The motion was duly seconded, put to vote and carried.)

EXECUTIVE SECRETARY HENDERSCHOTT: The Executive Secretary casts one ballot for Mr. Arthur H. Young for First Vice-President of the Association for the ensuing year, as directed.

PRESIDENT ROWE: The ballot has been reported and Mr. Arthur H. Young is elected First Vice-President of the Association for the ensuing year.

EXECUTIVE SECRETARY HENDERSCHOTT: For Second Vice-President there are two nominations—James H. Rand, of The Rand Company, and J. W. Dietz, of the Western Electric Company, Inc. The Constitution provides in this case that you shall proceed to elect by ballot, and only Class "A" members voting.

MR. ROY L. DAVIS (Western Electric Company, Inc.): As proxy for Mr. Dietz, of the Western Electric Company, do I vote in his place?

PRESIDENT ROWE: That is for the members to decide.

EXECUTIVE SECRETARY HENDERSCHOTT: The Class "A" member votes through its Class "A" representative. If the Class "A" representative is not here, will some member representing that company present be permitted to vote by proxy for the member company? I believe that is the question.

There is nothing in the Constitution that covers that, and it is to be decided by the Convention, I suppose.

MR. FRED R. JENKINS (Commonwealth Edison Company): I believe that the custom in many associations that Class "A" voting representatives need not be the same men at all times, and each Convention may have a different one if they choose. The gentleman representing the Western Electric Company here is the voting representative, and I move it should be so considered.

PRESIDENT ROWE: It is moved and seconded that the representative of the Western Electric Company present be entitled to vote for that company, although he is not the official representative of that company. I am perfectly willing to entertain that motion.

EXECUTIVE SECRETARY HENDERSCHOTT: Does that include all companies? There are several in the same condition—that each company that has a representative here be permitted to cast a vote, although he may not be the Class "A" member chosen by the company to represent it.

MR. JENKINS: I withdraw the motion, and I will change it to include all companies. I move that all Class "A" member companies which have a representative who was delegated to be at this Convention, that that delegate be permitted to vote for that corporation.

(The motion was seconded.)

PRESIDENT ROWE: The Chair would not like to attempt to make a decision upon the question which has been presented in the discussion which has taken place on the subject, but I do not see any reason why the bona fide representative of any company at this meeting should not be entitled to vote on general principles. Therefore, the Chair will entertain that motion. I think that it is perfectly fair.

MR. JENKINS: The motion applies to this meeting.

PRESIDENT ROWE: I do not have the book on parliamentary law here, but I think I am right, and I think your Board would sustain that view. Are there any remarks? All those in favor signify by saying "Aye"; all contrary minded, "No." The motion has been voted on and carried, and it is so ordered.

I understand that this motion prevails only at this meeting of the Association. It is up to the Executive Committee to clear the matter for future meetings.

It will facilitate matters a little, and time is a considerable element, and we have a lot of business to do, if the Class "A" representatives and those entitled to votes will take forward seats here, so that the tellers, when the Chair appoints them, can pass the ballots around and collect them.

Incidentally, I may say that proper revision for a change in our Constitution to cover the point we have just been discussing should be made.

The Chair will appoint as tellers Mr. Banks and Mr. Reist.

(The tellers then distributed blank ballots.)

EXECUTIVE SECRETARY HENDERSCHOTT: Mark on your ballot the name of Mr. Rand or Mr. Dietz, as you desire to vote for either one.

President Rowe: Who are the nominees for members of the Executive Committee to be elected at this meeting?

Executive Secretary Henderschott: There are five candidates with positions to fill for members of the Executive Committee.

President Rowe: Will you read the names?

Executive Secretary Henderschott: They are as follows: George N. Van Derhoef, K. W. Watterson, W. H. Maddock, C. S. Coler, and S. W. Ashe.

President Rowe: You will kindly prepare your ballots for members of the Executive Committee. The tellers advise that they are now ready to report on the ballot for Second Vice-President.

Mr. J. E. Banks (American Bridge Company): Mr. President and Gentlemen—The tellers report that for Second Vice-President there were 23 ballots cast, of which Mr. James H. Rand received twelve and Mr. J. W. Dietz received eleven.

President Rowe: Gentlemen, you have heard the report of the tellers on the election of Second Vice-President. What is your pleasure?

Mr. W. N. Fenninger (Brooklyn Edison Company): I move that the election of Mr. Rand be made unanimous.

(The motion was duly seconded, put to vote and carried.)

President Rowe: The Constitution provides for the election of a Nominating Committee to nominate officers for the Convention next year for the ensuing year. Nominations are now in order.

A Member: I nominate Mr. Jenkins.

Mr. Jenkins: I feel I would be unable to serve, and I expect to be in the West at the time of the next Convention.

Executive Secretary Henderschott: The Nominating Committee is called together and makes this nomination thirty days before the Convention.

A Member: I nominate Mr. Hopf.

Mr. Hopf: I would like to withdraw my name; it is entirely unexpected.

A Member: I nominate Mr. Henderschott.

Mr. Henderschott: The working officers should not be members of the Nominating Committee. I prefer to be nonpartisan.

A Member: I nominate Mr. Wakefield.

A Member: I nominate Mr. Heath.

A Member: I nominate Mr. Garvey.

A Member: I nominate Mr. Lane.

C. E. Shaw: I move that nominations be closed.

(Motion seconded.)

President Rowe: It is moved and seconded that the nominations for members of the Nominating Committee for next year be closed. Are you ready for the question? All in favor say "Aye"; opposed, "No." It is so ordered.

Mr. C. E. Shaw (Dennison Manufacturing Company): I move that the Secretary be authorized to cast one ballot for the gentlemen nominated.

(The motion was duly seconded, put to vote and carried.)

Executive Secretary Henderschott: The Executive Secretary casts one ballot for the gentlemen nominated as members of the Nominating Committee.

The next question that comes up is suggested change in the method of changing the Constitution. We have the following petition:

To The National Association of Corporation Schools: The undersigned, voting representatives of Class "A" Members in The National Association of Corporation Schools, respectfully petition that at the Annual Meeting to be held in Chicago, June 3, 4, 5 and 6, 1919, that Article VII, Section 1, of the Constitution, be amended to read as follows:

Amendments to this Constitution shall be offered in writing and must be signed by the accredited delegates of not less than five (5) member companies.

Amendments so signed must be in the hands of the Secretary of the Association not less than forty (40) days in advance of the Annual Meeting, provided, however, that representatives of five (5) Class "A" members may request that the Constitution be amended between the Annual Conventions, that a copy of the proposed amendment to be sent to all Class "A" members, that thirty (30) days after the proposed amendment is sent to the Class "A" members a mail vote shall be taken and a two-thirds vote of the membership shall be necessary for the amendment to become operative.

(Signed) C. R. Dooley
K. W. Watterson
John McLeod
Geo. N. Van Derhoef
W. W. Kincaid

President Rowe: Gentlemen, you have heard the petition. A motion is in order to bring this properly before the meeting.

Mr. Jenkins: I move the adoption of the proposed amendment.

(The motion was duly seconded.)

President Rowe: It has been moved and duly seconded that the proposed amendment be adopted. The matter is now open for discussion. Does any member desire to speak on this question?

Mr. Jenkins: I see no reason why it could not be handled in that way as well as by this meeting. You will know more by correspondence than if a matter of this kind is sprung on the members at a meeting like this.

President Rowe: Are there any other remarks? If not, all in favor of the resolution as read say "Aye"; opposed, "No." It is adopted.

Now, can we have the report of the tellers on the election of members of the Executive Committee?

Mr. Reist: Mr. President and Gentlemen—The tellers respectfully report that the following ballots have been cast for members of the Executive Committee:

Mr. Watterson	22
Mr. Coler	21
Mr. Van Derhoef	18
Mr. Ashe	17
Mr. Maddock	14

The first four gentlemen named have received the highest number of votes—Messrs. Watterson, Coler, Van Derhoef, and Ashe.

Secretary Henderschott: The election then is Mr. Waterson, Mr. Coler, Mr. Van Derhoef, and Mr. Ashe, as members of the Executive Committee.

PRESIDENT ROWE: And the chair so declares.

PRESIDENT ROWE: The next business is to consider the changing of the name of the Association. Will not the Secretary kindly make a résumé of that matter?

EXECUTIVE SECRETARY HENDERSCHOTT: I think every one is familiar with it. There has been an agitation almost continuously since the Association was formed, as to whether or not we had the best name that we could have for our Association—the particular exception to the present name has been that the words "Schools" gives the impression that our Association might be academic, and that a corporation which does not maintain a school is, therefore, not interested in our activities, although we cover the whole field of personal relations.

The question was brought before the Executive Committee and as directed by the Executive Committee, I sent out a questionaire asking for suggestions regarding a new name for the Association. Quite a number of suggestions for a new name were received, and almost an equal number objected to any change whatsoever. Those which were received were very carefully canvassed by the Executive Committee, and the following appears in the Minutes of the Meeting of the Executive Committee of the Association, held in New York on Tuesday, May 6, 1919:

"The question of a change of name of the Association was discussed. The Executive Secretary furnished the President with a list of names which had been submitted by members of the Association, which was read. Each name was gone over very carefully and after due consideration the concensus of opinion of the majority of the members present was embraced in a summary made by Mr. Van Derhoef as follows:

'We should view the matter of changing the name of the Association from a different angle than would be proper in selecting a name for a new organization.

'We have been a successful-going concern for a number of years and our name is favorably known all over the world.

'This name is a valuable asset and should not be changed unless there is a very good reason for so doing.

'I think we are all agreed that our sales work has been hampered by the one word "Schools" in our name, as it has given a wrong impression to our prospects as to our activities.

'Therefore, the logical thing to do, if possible, is to simply change this one word.

'The name suggested—The National Association of Corporation Training—seems to comply with these several ideas.

'Some criticism has been made to the use of the word "Corporation."

'It seems to me that as this is an Association belonging to the work-a-day world of industry, that we should value a word more by its common use than by the strict dictionary meaning. The word corporation has a meaning in the language of the day considerably broader than any other we could select for the purpose. Strength and force are often secured by the happy use of a word that has received by common usage a special weight.

'Much the same can be said as to the desirability of using the word "Training" instead of "Education."

'I feel sure that a merchant would regard the name proposed as one that would sell the goods.' "

I want to make a statement—I am in a very embarrassing position. A number of delegates to this meeting, before leaving, have asked me to report them on this matter. If I report them it might give an indication of an attitude on my part, and I have none. I have no attitude in the matter at all, as I believe your working officer should have no attitude on a matter of this kind. All who have come to me and spoken about it, and have left the Convention, said they wished to be registered as opposing any change.

Mr. Jenkins: It strikes me the question should first be, whether we want to change the name. Therefore, I move that the name of the Association be not changed at this time.

Mr. Shaw: I second the motion.

(The motion was put to vote and carried.)

Mr. M. D. Bell (Washburn Crosby Company): There seems to be a landslide for leaving things as they are. I had a feeling there was to be a change. It was on the representation that there was to be a change of that sort that I undertook to sell two memberships in the Association. Our own company declined to become a member of this Association because they had no school. Their training activities were being otherwise taken care of, but when it was represented to them that this Association covered the field of personal relations, we immediately found that the Association met our requirements. We did not investigate it under its name, but under a description of its work—when we were advised as to the work which the Association did, then we investigated it. You can say:

> "That which we call a rose,
> By any other name would smell as sweet."

That is not so, absolutely no. Smell is governed by mind and personal impressions. You cannot sell roses under the name that is known in our vicinity covering a skunk cabbage. The name itself suggests a sort of difference in smell which effectually makes it impossible to sell a rose under that name, and the same thing is true of this Association. You are attempting to meet a need for a service, the need exists and all corporations and individuals feel the need, the need is great, and people are reaching out to meet that need.

It is a need which covers all phases of relationship of corporations or companies to their employes, particularly the field as expressed as "Personal Relations," and on the basis of the old name, I am out, and our company will be out.

Possible under a new name I can sell certain memberships where the companies are now considering the proposition, and do not fully understand the field you cover—you cover a different field, not only in regard to schools, not only in regard to training, but in regard to all the factors which enter into personal relations.

I think a proper name for the Association is absolutely essential. You are considering a change in policy, so that you can get on your feet. I think it is right—I think the corporations here should pay for what they are getting, but I do not think our company wishes to continue if the facts are as stated, that they are paying only $100 and that service costs $200. The service is worth to our company what we believe it to be; we wish to assume our share of the burden, put our shoulders to the wheel, and get out and sell this idea to the other big milling companies of the world. We can do it. The Washburn-Crosby Co. is the only one of the large milling companies in the Association at the present time that I know of. But the need in the milling field for the character of service which this Association can render is great, and that need is becoming more apparent.

In my opinion, there is a real need for a change in the name. It is simply that your field has grown and the name remained as it was, and you cannot go out and explain that the name does not cover the activity, but let the Director of the Corporation feel that you know your business, and you cannot do that if you have got to explain that the name does not cover the activity, but you are selling a service different from that which is covered by the name.

I am representing a company at this meeting whose control is in the hands of directors. These directors are mostly too busy to attend conventions of this sort. They expect me to come here and fit the ideas which are advanced here to our requirements. We have a need—we are conscious of that need—and I am taking back information from this meeting to show how people are meeting a similar need in slightly different fields, and I have got to show these directors that the Association can supply them with that which they need in the direction of its activities, there is no question at all as to the amount of the annual fee, whether it is $100 or $200. To have the Association properly fit its field would warrant the expenditure of a great deal of money. It simply is a question of salesmanship, and salesmanship very largely by subordinates to their directors. It is a difficult thing.

I do not think it is ever going to be possible to get the directors of these big corporations to attend these meetings. I think necessarily the salesmanship must be carried on by subordinates, and the sales made by the subordinates to their superiors and the old name of the Association makes it difficult. A new and intelligently chosen name would be of great advantage to the Association.

President Rowe: The subject is open for discussion and we want to hear full expression of view, because it is one of the most important questions we have before us.

Mr. T. H. Skinner (Oneida Community, Ltd.): I cannot agree with the previous speaker, when he says that one name is as good as another—and that a change of name will not affect the efficiency of the organization.

I believe it may, for I remember The National Association of

Cement Users, of which Chicago was the original home, was an Association to which anybody interested in the use of cement, or in the manufacture or distribution of cement, was eligible to membership, and I was a member. The exhibitions which were held by the Association were very successful and were attended by architects and engineers, and by home contractors, builders, and real estate dealers, manufacturers and people came from all over the United States who in any way used cement or any of its products in their business. Conventions were held also at which discussions came from practical people, people who used cement, and the discussions were extremely valuable. When the engineers, architects and college professors who came to get information joined in the discussions, and were asked to read papers, the discussions promptly became technical. Then, some of the members said because of that the organization should be called an Institute, and they changed the name to "The American Concrete Institute," and from that day on it has been a "high-brow" institute in the minds of people who make use of cement, and its original purpose is entirely altered. I believe the same would be true of this Association if the word Institute is injected into the name.

Since the proposition came to me through Secretary Henderschott's office, I have spent considerable study on this very important question, and believe me, we want to give very careful consideration to a change of name, asking ourselves in the first place—What is this Association, and how can it best be described in its name? I would say to myself—

Is it a big organization? Yes. Nation-wide? Yes.

Then is it a National Association? Yes.

Is it an Association of firms or individuals? Neither and yet both! It is an association of the representatives of corporations. You cannot say it is an association of corporations without qualifying words, because it is not—it is an association of certain particular parts, or persons, of corporations for particular purposes—for example, the directors of continuation schools. Look up the word "schools" and see what that means, and how broadly it is used by cultured people. There are Schools of Music, Schools of Painting, Schools of Sculpture, Schools of Religion and of this and that subject. There is not a word in the English language today which has a broader meaning than the word "school," nor one which conveys in a bigger way the great field covered by this Association.

We are representing a group of corporations located in various parts of the country, all here to help each other to more efficient work or living—one corporation has a school for vocational training, another a school for office training, another has a school on personal relations and personal hygiene, and there are all sorts of other things we are doing which we are here associated to learn about and teach each other, that come technically and literally under the name of schools—in my opinion this name is as brief and descriptive of the work the organization has done as can be found and no matter how broadly it may spread out, the name will fit.

The gentleman says that with the present name, i.e., with the word "school" in it, he cannot "sell the Association" to his company, but with the name changed he could, and others say they could "sell" membership to other corporations with the word "school" left out of the name.

Now I do not believe we have got together for the purpose of selling some ideas to somebody else. We have gotten together for mutual helpfulness, and we do not want to forget it. If after helping ourselves, a spirit of thankfulness and gratitude wells up into a missionary spirit, and we long to help others, we will go and tell of the good things we have gotten out of this Associaton, and we will put so much enthusiasm into our description of it, that we will "sell it," if that is the word you want to use, to other people, regardless of the name, but in my judgment we have a name which requires no explanation. Put in an apostrophe ('s) after the word Corporation, if you want to, and thus particularly specify that part of the corporation which is associated with others.

The motion was made that we do not wish to change the name of the Association at this time, and I seconded the motion. I think the motion is all ready to be voted upon. I move the question—

President Rowe: No, it is not voted on. Do not let us be in a hurry about this thing. There are several sides to this thing, and I am sure there are others here who wish to speak on the subject. I request that you do not call for the motion until we have had ample time to discuss the matter fully.

Mr. Laurence W. Lane (Successful Farming): I agree with the gentleman who has spoken of the handicap of our Association's name in selling new members, and I want to agree with the gentleman who said that we are here for mutual interests, but I also wish to say that this mutual interest proposition depends on bringing in a considerable number of new members.

There are a lot of people west of this city who should be members of this Association, but who are not managing large corporations, and who do not understand, in the larger sense, the meaning of "Corporation Schools," but they do understand the word "Training."

It seems to me there are two words uppermost in the industrial field today, one is "Representation," and the other is "Training." In our own city we have a lot of small manufacturers and a few large manufacturers. We have gotten up a lot of interest on training, because the matter has been put up to them in such a way that they understand that training is a problem in their own plant, even if they have only ten employes, but they do not understand that they have a problem in connection with schools.

I may say that in our own plant it has taken two years to sell the president, who is a very busy man, who is down here in Chicago and in Washington and New York, more than he is in Des Moines, a membership in this Association.

He has never been sold really, on the proposition, on account of the word "schools." He did not care about the $100, but he did not see the thing in the way we would like to have him see it. We have other men in our city whom we could sell this proposition to with comparatively little salesmanship work, if the name was changed.

I am not particularly standing up for the word "Training" as a part of the name, but I do feel that in getting new members in places where they do not have the large corporation schools, but are interested in the field of industrial relations, that the word "school" is a handicap.

Mr. A. A. Nigosian (The B. F. Goodrich Company): Definition of terms are essential in order to give clear concept; therefore, the name of our Association should convey the purpose in which it stands for, but the by-laws of an association are even more important than the name of it in order to explain the aims and policies. If a prospective member of this Association cannot be interested enough to read our by-laws, but merely accept or refuse membership on account of an assumed idea about the name, we should rather have a new method of approach to these prospects. Prospective members and also prospective solicitors to increase our membership should be saturated primarily with the aims and policies of our Association. The name then becomes of secondary importance. As far as I am concerned, the change in the name is not of great consequence.

Mr. Ashe: I believe there is not a single thing that you men could do today and would do more harm to The National Association of Corporation Schools than to change its name. You know in times like this that the spirit of change is in the air, everybody wants to change everything, and if you get in touch with the engineering organizations today, all of them in the country, you will find that they are thinking of what they can do to make a change and try to stimulate interest.

The National Association of Corporation Schools has done more at this Convention through the work of the Committees, and through other agencies, to get down to brass tacks and bed rock, than at any other convention, and you have much better organization, a more solid organization, that is doing more good, than the great majority of organizations I have been connected with.

The minute you start to make a change in the name, it is an indication of weakness, and there is absolutely no weakness in the organization. You may get a few more members by changing the name, and in my opinion, anybody you want to sell the Association to, who really wants to find out about it, will not give a great deal of thought to the name, but will ask you what you are doing, who is interested in the Association, and what you have accomplished, and if you start out and change the name, you will be doing a mighty bad thing, and that is my honest belief. (Applause).

Mr. George N. Van Derhoef (Dodge Manufacturing Company): There are one or two points that I would like to speak of. I personally had a conversation with the president of our company, about this matter, and he viewed it, not from the standpoint of schools, but from the standpoint of a business man, and he was decidedly against the retention of the word "schools." He thought rather well of the word "training."

The word "schools" undoubtedly has a very broad meaning, as the gentleman a few minutes ago pointed out, but that broad meaning is not a meaning which is common usage in this country among ordinary people. It is not generally accepted—the word "schools," as used in the industrial and commercial field, is associated with a definite school classroom proposition.

I do not agree with our friend who does not like the selling idea, and talks about the missionaries. I think the missionaries are good salesmen—at least most of them are. They usually have a salvation proposition to put over, and if they are good missionaries, they do it.

(Calls for the "Question," "Question.")

PRESIDENT ROWE: I think before we go to vote in this matter, it might be proper and interesting to have some little information as to the way this question has come up, and some of the reasons which have been presented through many sources touching this question.

In the first place, it was thoroughly discussed in the Executive Board.

We held an all-day meeting for practically this special purpose, to see whether we might, from the information we had, and perhaps somewhat because of our own views, determine upon a name we should father, or see what other name we could select that would be better, and what that name should be.

I presume that this organization was properly named, when it started. But we have long since outgrown that name. We are much more than an association of schools. We have a great number of companies in the Association who do not conduct schools at all.

These suggestions, I might remark, represent what we got from those who have been most active in endeavoring to get new members. They find whenever they talk of schools that frequently they first have to overcome a prejudice against the word schools. Another thing our name is not euphonious. I stumble over it every time I try to speak it; when some one asks me the name I have to stop and think a little while, and that experience has been reported by others.

In the second place, the first impression that is made upon the mind of the man who is to be induced to become a member is the important impression—you specialize on salesmanship, have emphasized that over and over. It is the first impression that is very lasting, and does much to decide the final issue.

Now, we have members who think we should not change our name, and as I think has been stated here, the argument was put forth, and it has considerable merit, that a change of name is never desirable, when in view of the fact that we have become known under our present name very widely, that a change in that name would not be to our benefit. Then we have others who have analyzed the whole question of name, to find one that would fit our activities.

I need not describe to you what our activities are, because you know them. But if we could find a name that would more accurately describe what we are or that would create the right impression, and that would exactly fit—(calls of "question," "question," "question")—we might go about changing our name in that way. Now, if you insist upon the question, and you are sure in your own mind that the subject is not worthy of further debate, the chair is ready to put the motion, but I am quite sure that there are many sides to this question that have not been touched upon here.

Mr. P. E. Wakefield (Carnegie Steel Company): May I have the floor after you have finished?

President Rowe: I have finished, but the question has been called for. If the gentlemen are willing to indulge Mr. Wakefield, we will be glad to hear from him.

Mr. Wakefield: I ask the gentleman who insisted on selling this offhand—I presume they do not want any change—if they have made any effort to sell membership in this Association to men who have never heard of it before. We have got to realize actual conditions a little bit. I work in the office with a man known as the chief of the bureau of welfare. When he wants to write a letter, and mention this Association, he says it takes longer to write the title of the Association than it does the matter.

I do not want to discount the influence the Association exercises, or the publicity we have gained throughout this country and other countries, but I venture to say that nine-tenths of the industrial corporations in the Pittsburgh district have never heard of The National Association of Corporation Schools, or if they have heard of it, that they do not have a clear idea from the name as to what it is assigned to sell membership in this Association constantly.

MR. ASHE: I did not have anything to do with bringing up the discussion, and got into later. I have a great deal to do with interesting many companies in the Association. I never try to sell the organization, but I have done as much as most others have in trying to make the Association what it is today, but I have done it in the way many others have done it, without any selfish motive whatever, being a firm believer in the organization. We have succeeded in selling it to our own company very thoroughly.

I request that the name be not changed. I am speaking largely from my own instincts and my experience and contact with others who have been in the organization a long time, and in the belief that in times like these it is not a good time to make a change. There is too much change going on, and while it is true that the word "schools" is such a hindrance in getting members as is mentioned here, there should be a reasonable amount of time spent on this proposition of changing the name, and the committee should be appointed if the gentlemen are not satisfied with the name, and let them spend a year or so in thinking of what is a good name. This idea of "let us have a change" before we decide what we are going to change to is not a wise policy to pursue. If you want to change the name and make it read "National Association of Corporations' Schools," and you think that would sell the name to some companies, all right, but simply changing the name would not sell the organization. The thing that will sell the organization is what the people get out of it. That is what will sell the organization. The name has never sold any article as far as I can see—it is what the Association is giving them, what it sells—and the name is incidental. Therefore, unless you have something exceptionally good which will be a panacea for a lot of the ills we imagine we have, it will be a bad thing to make a change in the name at this time.

PRESIDENT ROWE: The chair remarks that we might have something good hidden away, but no opportunity has been permitted to present that phase of the question at all. We have an entirely one-sided discussion as to whether we want to change the name or not, without having given any opportunity to hear the names that have been suggested by the members of the Association, as to the change of name which might be made.

Mr. Tukey: As between the word "schools" and "training," these are the two words we are "batting around," let me give you a little experience from out of the East.

The training branch of the Emergency Fleet Corporation adopted the name Educational and Industrial Training Section of the Emergency.

Mr. Wakefield: In connection with one meeting of the Pittsburgh Chapter, held the 16th of last month, we sent out over 100 sales letters—that is a very optimistic name to give to them because I wrote them myself, but I do not pose as a salesman and we sent follow-up letters to over 100 companies in the Pittsburgh District, and in response to those letters not one man turned out to attend the annual meeting of the Chapter which was held on the 16th of May. Four reporters from the Pittsburgh papers came out to the meeting, and it took me longer to disabuse their minds of their preconceived idea of what the meeting was going to be, than to tell them what it was going to be. They had some notion from the name of the organization that it was some meeting on public schools or industrial schools in the Pittsburgh District.

If the majority of the members of the Association—of course, I am not Class "A" voting member of this Association, but I have done my share towards advancing the work of the Association—if the majority members of the Association want to keep the name of the Association the same as it is, I shall go along with the crowd. Do not think, for the sake of whatever these gentlemen have in their minds for the program of entertainment this afternoon, that we should rush this question through.

President Rowe: May the chair add, with the permission of the gentleman who called for the question—

Mr. Tukey: We started training boys in the various shipyards. Several months ago when I first talked to the General Manager of the Submarine Boat Corporation, as to his conception of what we were going to do in the nature of training, his thought was that we were going to have a building somewhere, with some class-rooms and that was to be our "school." I disliked that word "school," because we were not going to have any class-rooms, we were going to train men to master specific jobs and trades. If any one called our training department a school, I was ready to throw a brick at him. We continued to call it a training department ourselves, but I will venture to say that 90 per cent. of the men in the plant at the present time call it a school. While the expert may distinguish the term, the layman makes no distinction. I think that offsets Mr. Lane's remarks relative to the words "training" and "schools."

It seems to me, as far as concerns a name for the Association, we are splitting hairs between the words "schools" and "training." Again, you seem to get down to the selling argument. Is it going to be any harder to justify the word "schools" than it will be to justify the change in name? If somebody who is not familiar with The National Association of Corporation Schools seeks information concerning that Association, and finds that in name it is extinct, you have lost a possibility.

I am not a salesman, and I do not know the first thing about salesmanship, but I do not believe it would be any harder to secure a new member under the present name than it would be to secure a new member under a changed name, that is a problem in justification as concerned in either case as between the words "schools" and "training," it would seem to me that if we make any change at all, we can make a more radical change from "schools" to "training."

President Rowe: That was the intention—I have been interrupted twice in my attempt to get both sides of the question, and I am ready to put the question when you want it. We have lost one member here on this proposition. If you think this a light question, one that can be tossed aside as one of unimportance, the chair is willing you shall do this—

Mr. Bell: I do not mean to give the impression that we were going to withdraw our company from membership in the Association, but I refer to two prospective members that I had in mind, and believed I could secure if we made the change in name.

President Rowe: It has been my experience, but my experience does not count—but when I explain what the institution is, by the time I have done that, I have taken up the time of the man I want to see, and I have not made the sale.

Mr. Banks: I would like to see the name of the organization changed to a name that will indicate what it was organized for and what it is doing.

Executive Secretary Henderschott: May I move that the question be referred back to the Executive Committee for further consideration.

(The motion was seconded by several members.)

President Rowe: This question takes precedence of the question before the house. All in favor of the motion say "Aye"; contrary-minded, "No."

The motion is unanimously carried.

I want to announce that there will be a meeting of the Executive Committee in this room immediately after the close of the session. We will now take up the annual report of the Treasurer, which will be presented by Secretary Henderschott.

(Treasurer then read his annual report, see page 56.)

Treasurer Henderschott: This report covers a period of about ten months from July 17, 1918, to May 15, 1919, the books having been audited at a later period last year, because we did not hold a convention last year.

President Rowe: You have heard the report of the Treasurer. What is your wish regarding it?

Mr. Bell: I move that it be received and placed on file.

(The motion was duly received, put to vote and carried.)

Secretary Henderschott: The next business is the installation of the newly elected president, and other officers.

President Rowe: I will appoint Mr. Tukey and Mr. Sheldon a committee to escort the newly elected president to the chair.

Mr. Sheldon: Mr. President and Gentlemen, I have great pleasure in presenting to you your newly elected president, Mr. W. W. Kincaid.

President Rowe: Mr. President, I welcome you to the chair. It is a very pleasing position to hold. I hope you will be very successful.

President-Elect Kincaid: Mr. President, Ladies and Gentlemen—The hour is too late for any one to attempt to address you at this time, in view of the trip to the South Shore Country Club, and you are too hungry to listen, but there are just one or two points I would like to touch upon if I may ask your indulgence for a few moments.

I want to say, first, that I thank you most sincerely for the compliment that you paid me in giving me your unanimous support by the vote cast this morning, and I pledge to you the very best efforts and ability that I have in support of The National Association of Corporation Schools during this coming year.

I believe most thoroughly in the object for which this Association is formed, and I believe we can work together under the name as it is or under another name. The name is immaterial, but I want to ask your earnest cooperation and support in return.

This Association will be a success only as the membership assumes its responsibility to the Association, and only as every member of the Association takes his part in the Association.

There have been one or two suggestions in the discussion we have had—and in fact I do not think a discussion or division in the house is the worst thing that can happen. There have been one or two points brought out which I think may be helpful to us.

You perhaps have heard the story of the woman who sued her husband for a divorce. When the judge asked her what the difficulty was, she did not seem to have a direct answer. He was pressing her for a reason; he asked her if her husband did not support her. She replied, "Oh, yes, he supported her very well;" the judge asked if he gave her sufficient money, and she replied yes, that he gave her sufficient money. The judge asked if he did not allow her to do as she pleased, and she said, "Oh, yes, she did do about as she pleased." The judge then became very much in earnest and said, "Well, what is the real reason you want this divorce?" She said, "Judge, the trouble is he lets me do just as I please. We have no differences and he has become absolutely unendurable."

In an organization that runs along for a great length of time, and everything runs so smoothly that nobody raises an objection, I think things are likely to become unendurable; that may be the trouble with this Association. Things may have been running too smoothly, and this discussion today has brought us to a realization that perhaps there are some things which we should change. I hope it has brought to each and every member here a full sense of his responsibility, and coupled with that is this thought which I desire to bring out—I ask each and every one of you to assume your full responsibility to the Association.

The remarks of one of our members might be interpreted to the effect that he thinks the Executive Committee should do something towards putting this Association on a permanent basis. I want to say that the Executive Committee alone will never put the Association on a permanent basis. It will require support, the active effort and the very best effort of each and every individual member here to put it on a permanent basis if the new Executive Committee and myself as your presiding officer could not command your full support, I certainly would refuse this election, but the fact that you did not contest my right to the chair today has somewhat strengthened my courage and so I will accept the chair and give you the best I have. I will be an unpleasant chairman to work with and scold worse than Dr. Rowe did the other evening if you do not come forward as members and do your best to support the organization.

I want your support in other ways than financially. I want to see this made a democratic organization, so that any man who has something to contribute in the way of thought or suggestion, pertaining to the affairs or the work of the Association, may express them. The Executive Committee may turn down some of these suggestions. I want to see every man who has a suggestion for the betterment of the organization given an opprtunity to express those suggestions to the Executive Committee. We will consider them, and, if in the judgment of the Executive Committee it is wise to do so, we will accept and put them into operation.

I ask that you will give the officers and the Executive Committee your heartiest support and then also take up this campaign that Dr. Rowe started here today, and help to gather a sufficient amount of money to put this organization in its own offices, in a proper building, employing the full time of its own managing director—we have changed the title of the executive secretary to managing director. If you will aid us and support us financially, if every man will go home and get one new member in the next thirty days, all those who pledged themselves to do so, and all who did not pledge to do so, will endeavor to do so and continue the effort until we have secured a total of two hundred and twenty-five or two hundred and fifty Class "A" members, we can put this Association in its own offices with its own managing director, who can give his full time to it. If we do this, we can go ahead and render to the industry and commerce of the United States a service which it needs—the service of The National Association of Corporation Schools.

There is another subject which I had in mind that I would